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THE NATIONAL GEOGRAPHIC MAGAZINE

THE RAT PEST

The Labor of 200,000 Men in the United States Required to Support Rats, Man's Most Destructive and Dangerous Enemy

BY EDWARD W. NELSON

CHIEF OF THE U. S. BIOLOGICAL SURVEY

Readers of the GEOGRAPHIC *will recall with pleasure Mr. Nelson's informative article on the Larger North American Mammals, published in this magazine in November, 1916, and illustrated by a remarkable series of four-color reproductions of paintings by Louis Agassiz Fuertes. The following article embraces information obtained by Mr. Nelson during years of research and study of mammals, especially rats and squirrels. A third article by this author will be published in an early issue of the* GEOGRAPHIC, *his subject being the Smaller North American Mammals, illustrated by a second series of 32 pages of color illustrations reproduced from Mr. Fuertes' paintings.*

HOUSE rats are extremely numerous and are world-wide in distribution. At the present time they destroy annually hundreds of millions of dollars' worth of foodstuffs and other property, and through the distribution of bubonic plague and other diseases cause the deaths of untold numbers of human beings. These facts being known, why should we delay in vigorously using known methods for the elimination from our homes and communities of these wasteful and loathsome pests?

The common house-frequenting rats are of three species, the brown, the black, and the roof rat. All are believed to be natives of Asia, whence they have spread to most parts of the world. In their relations to man their habits are so similar that they may be included in one account. The larger size, abundance, more general distribution, and aggressive predominance of the brown rat, also known as the Norway and wharf rat, has led to its being generally known as "the house rat."

So far as known, these rodents are always and everywhere thoroughgoing pests, with no usefulness to man.

The history of the brown rat is an extraordinary one, unequaled by that of any other mammal. It was unknown in Europe until 1727, when vast hordes of them swam the Volga River. A year or two later it arrived in England on ships from the Orient. Since that time it has steadily extended its distribution by means of ships and other transportation agencies, and by migrations overland, until it shares with mankind nearly all parts of the earth from Greenland to Patagonia and around the globe.

It is a sturdy, fierce, and cunning animal with extraordinary fecundity. These characteristics have enabled it quickly to

Photographs from U. S. Biological Survey

A CORNFIELD NEAR WASHINGTON DESTROYED BY RATS

CORN IN A FIELD NEAR WASHINGTON DESTROYED BY RATS

It is estimated that rats each year destroy in the United States food to the value of $200,000,000, enough food to feed the people of Belgium for one year (see pages 10-11) overrun and occupy new territory despite the never-ceasing warfare waged against it by man and the competition of other mammals.

The smaller black rat and roof rat formerly existed in most parts of the Old World. They preceded the brown rat also in America, but when the latter arrived were promptly reduced by it to a secondary position or exterminated. Black rats still exist in some parts of the United States, and roof rats are common with the brown rat in the milder climate of the Southern States.

IT MAY HAVE TWELVE LITTERS A YEAR

The greater size of the brown rat readily distinguishes it from either of the other species. It averages from one to one and a half pounds in weight and about 18 inches in length. Occasional giants of its kind occur, however, as shown by the capture, near Canterbury, England, of one huge individual weighing over four pounds and measuring 22½ inches in length.

With an abundant food supply brown rats increase with almost incredible rapidity. They have from three to twelve litters a year, each containing from six to more than twenty young, the average being about ten. The young begin to breed when less than three months of age.

Rats are nocturnal and as a rule keep hidden during the day in holes and other places of concealment about buildings or in burrows which they dig in the ground. Within their retreats they make warm nests of shredded fibrous material, often cut from costly fabrics, in which their naked and helpless young are safely brought forth.

After careful investigation the United States Public Health Service estimates that the number of rats living under normal conditions in our cities equals the human population, but that in country districts they are relatively three or four times as numerous.

This estimate is practically the same as that obtained some years ago in Great Britain and Ireland, Denmark, France, and Germany. At intervals, as the result of especially favorable conditions of food supply and weather, extraordinary increases of rats occur over considerable areas and the damage by them is enormously increased.

A vivid realization of the multitude of rats which thrive as parasites on man's industry may be gained from the results of local campaigns against them. In 1904 a plague of rats occurred in Rock Island and Mercer counties, Illinois, and during the month ending April 20 one man killed 3,445 on his farm.

During the campaign of the Public Health Service against the bubonic plague in San Francisco from 1904 to 1907, inclusive, more than 800,000 were killed; and in New Orleans, during 1914 and 1915, 551,370 were destroyed.

During the winter and spring of a single year more than 17,000 rats were killed on a rice plantation containing 400 acres in Georgia, and by actual count 30,000 were killed on another plantation containing about 1,200 acres. On a farm of about 150 acres on Thompson Island, in Boston harbor, 1,300 occupied rat holes were counted and other rats were living about the farm buildings. At a large meat-packing establishment in Chicago from 4,000 to 9,000 have been killed yearly.

AMAZING NUMBERS INFEST GRAIN VESSELS

Islands in the tropical or semitropical seas furnish ideal conditions for rats, and in many instances they have increased until they have become intolerable pests, threatening the total ruin of the inhabitants. On one sugar-cane plantation in Porto Rico 25,000 rats were killed in less than six months.

In Jamaica an effort was made to suppress them by introducing the mongoose, which resulted in the establishment of a second pest. In the Hawaiian Islands the introduction of the mongoose caused the rats to take refuge in the tree-tops, where many of them have nests and have arboreal habits, like squirrels. Wherever present on these islands the mongoose has rendered it exceedingly difficult to raise domestic fowls of any kind.

As has long been known, rats are very numerous on ships. After the fumigation of a grain vessel at Bombay 1,300

From a painting by Poussin. Photograph from Boelter

ILLUSTRATING THE "BLACK DEATH" PLAGUE, A RAT-SPREAD DISEASE DURING THE MIDDLE AGES IN EUROPE, WHICH COST 25,000,000 LIVES (SEE PAGE 13)

dead rats were found, and the fumigation of the steamship *Minnehaha* at London yielded a bag of 1,700. In eight years 572,000 were killed on the London docks, including those on the ships.

As reported to Parliament by the Famine Commission, in 1881, a rat plague existed in southern Deccan and the Mahratta districts of India. Bounties were paid for destruction of rats and more than 12,000,000 were killed. On many occasions, both on the mainland as well as on islands, the unlimited increase of rats has finally led to the almost total loss of crops and other food supplies and resulting famines.

One of the most amazing accounts of the abundance of these animals comes from the Island of South Georgia, on the border of the Antarctic east of Cape Horn. For some years summer whaling operations have been conducted at this island and great numbers of whale carcasses, after being stripped of the blubber, have drifted ashore. The short cool summers and long cold winters of this region preserve the bodies from rapid decay and the rats which have landed from the ships find there a never-ending surplus of meat.

As a consequence they have multiplied until they now exist literally by millions. They make their nests in the grass and peat back from the shore and swarm along well-worn roads they have made on the mountain sides.

THEY MARCH LIKE ARMIES

The ready adaptability of rats to their surroundings is one of the qualities which has enabled them to conquer the world. On the approach of warm weather in summer large numbers of them leave buildings and resort to fields on farms, or to the outskirts of the towns, where the growing vegetation, particularly cultivated plants, affords them an abundant food supply until the approach of winter. At the beginning of cold weather they return again to the shelter of buildings,

Photograph from U. S. Public Health Service

WRECKING A BUILDING IN THE CENTER OF THE NEW ORLEANS PLAGUE DISTRICT

When New Orleans was threatened with bubonic plague buildings were razed to the ground in the effort to exterminate the rodents which carried the germs of the dread disease. The structure shown above was a combined stable and junk warehouse, which, with several other buildings, was surrounded by a two-story brick wall. In the inclosure there was a small house for the stableman, the ground floor of which was only six inches above the level of the court. When this floor was removed 54 of the total of 86 rats captured during the wrecking of all the buildings were killed, and of these 20 were found to be plague infected.

where they find the harvested crops ready for their consumption.

When the food supply suddenly decreases, following a period of plenty during which the rats have greatly increased in numbers, a migratory impulse appears to affect the entire rat population over large areas and a general migration takes place. At such times the rats are extraordinarily bold, swimming rivers without hesitation and surmounting all other natural obstacles. The first invasion of Europe, when rats swam the Volga, was an instance of this kind. Experiments by the U. S. Public Health Service have shown that when released in the water of a harbor rats may swim ashore for a distance of 1,500 yards.

An observer in Illinois, who saw a more local migration, states that he was passing down a road in the moonlight one night in the spring when he heard a rustling in a field near by. Soon a great army of rats swarmed across the road before him, extending as far as he could see. This district afterward suffered severely from the presence of these pests.

The extent to which rats wander from centers of abundance was well illustrated in New Orleans by experiments of our Public Health Service. One hundred and seventy-nine marked rats were released at a point in the residential part of the city. In less than 60 hours one of the marked rats was captured in a trap about a mile from the point where it was liberated, and within two weeks others

Photograph from U. S. Public Health Service

BACTERIOLOGICAL EXAMINATION OF RODENT CARCASSES: NEW ORLEANS

From July 8, 1914, to July 22, 1917, 447,019 rats were examined in this manner by the bacteriological staff of the Public Health Service; 1,160,687 rodents were captured in traps by the U. S. Public Health Service, but only the undamaged carcasses were subjected to this scrutiny were taken at various points in a direct line up to a distance of four miles.

Rats are excellent climbers, as every one appreciates who has seen them about barns and other buildings. They have also demonstrated their skill in this in the Hawaiian Islands and elsewhere.

In cities they have been seen to climb iron pipes for the purpose of entering buildings, to travel from one house to another on telephone wires, and to perform other extraordinarily ingenious feats in maintaining themselves.

THEIR DEPREDATIONS COVER WIDE RANGE

It is impossible to ascertain with precision the total losses resulting from the depredations of house rats. It is, however, practicable to secure information on which to base reasonable estimates of losses from this source. Rats are practically omnivorous and their depredations cover a wide range. They feed indifferently upon all kinds of vegetable and animal matter.

They dig up newly planted grain, destroy it while growing, and also when in the shock, stack, crib, granary, mill, elevator, warehouse, wharf, and ship's hold, as well as in the bin and feed trough. They eat fruits, vegetables, and meats in the market, destroying at the same time by pollution far more than is consumed.

They destroy enormous numbers of eggs and poultry, as well as the eggs and young of song and game birds. In addition, they invade stores and warehouses and destroy groceries of every description, as well as furs, laces, silks, carpets, and leather goods.

They cause many disastrous fires by gnawing matches, by gnawing through lead pipe near gas meters, or by cutting the insulation from electric wires in order to secure material for nests and by gathering oil-soaked rags and other inflammable material in their nests; flood houses by gnawing through lead water pipes; ruin artificial ponds and embankments by burrowing, and damage foundations, floors, doors, and furnishings of dwellings.

As disease carriers they also cause enormous commercial losses, especially through the introduction of bubonic plague and the resulting suspension of commerce. With the introduction of plague they become directly responsible for business disaster as well as for an appalling mortality.

The extent and variety of their activities may be indicated by citing instances of depredations by them. Much the greater part of losses from these pests is in foodstuffs, which, as already indicated, are destroyed at every stage from the time the seed is planted until they are ready for human consumption.

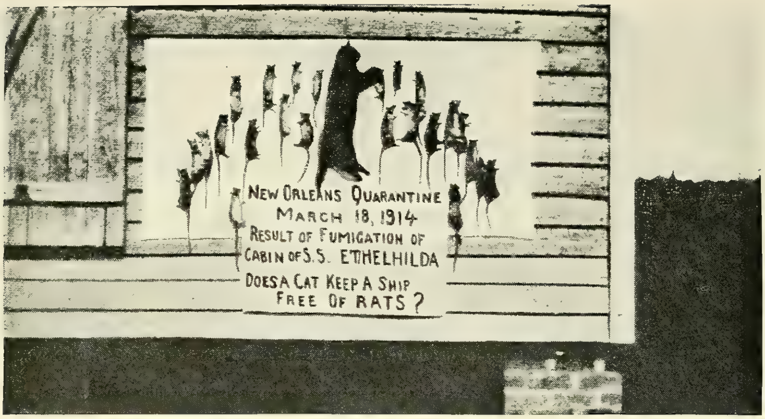
A PERSISTENT PLAGUE

Letters received from different States by the Biological Survey report that in places the freshly planted grain has been dug up so persistently by these pests that it has necessitated a second and even a third replanting. When the corn crop is ripening, they again attack it and sometimes destroy the entire crop in small fields, as was the case in a field on the outskirts of Washington, shown on page 2. When corn or other grain is in the shock, rats take shelter under it and do great damage.

The State Commissioner of Health, writing in 1914 concerning conditions in southwestern Virginia, states that rats consume something like 10 per cent of the grain raised in many of the counties and have destroyed 75 per cent of the young chickens and turkeys. The year this statement was made this section of Virginia marketed $70,000 worth of domestic fowls. Similar complaints from all parts of the country as to the destruction of chickens, turkeys, ducks, and geese on farms, and of eggs, both on farms and in storage, indicate an impressive aggregate loss in these items.

A farmer writes from Iowa that his immediate section is terribly infested with rats, which are very destructive to grain in store. He adds that they are undermining the premises with their holes and practically ruining buildings by gnawing holes everywhere at will. Another farmer in Iowa writes that he lost about 25 per cent of 2,000 bushels of corn held in cribs.

Grain stacks are favorite resorts for these animals and hundreds of them frequently gather there, wasting the farm-



ONE CAT AND TWENTY-FOUR RATS, THE RESULT OF FUMIGATING THE CABIN OF A STEAMSHIP

This cat, an exceptionally good ratter, was supposed to have kept the cabin free from rats. In fumigating she was overlooked. The fumigation of the steamship *Minnehaha* yielded a bag of 1,700 rats (see pages 3-8).

er's substance. In barns and stables they boldly rob cattle, horses, and chickens of their feed, frequently exacting heavy toll.

Poultry ranches often suffer extremely heavy losses, rats sometimes killing hundreds of young chickens, turkeys, ducks, and geese, and even the full-grown fowls.

A commission merchant in Washington stored 100 dozen eggs in a covered wooden tub in his warehouse and at the end of two weeks discovered that the rats had made a hole in the side of the tub near the cover and had carried away more than 70 dozen eggs without leaving any shells or other sign that a single egg had been broken. The ingenuity rats show in stealing eggs is notorious. It is a mystery how they manage to carry away unbroken such smooth, round objects, even taking them up stairways and over other obstacles.

The number of useful insect-eating birds nesting on the ground or in low bushes which fall victims to rats is extremely large and is one of the many kinds of injury done by these pernicious animals which cannot be computed. Probably few frequenters of the countryside have returned to look into a bird's nest to observe its condition without many times finding it destroyed and fragments of egg shells lying about. Unquestionably a large percentage of such nests located in the neighborhood of buildings have been raided by rats.

On one of the small Danish islands it has been authentically recorded that the progeny of a single pair of rats, which escaped from captivity, in two years time exterminated a great colony of birds for which the island had been noted.

Fresh fruits and vegetables are destroyed in the greenhouse, garden, and field; also during transportation on boats and cars and in markets. Cultivated flowers also are destroyed in greenhouses and gardens, as well as after they are cut for the florist.

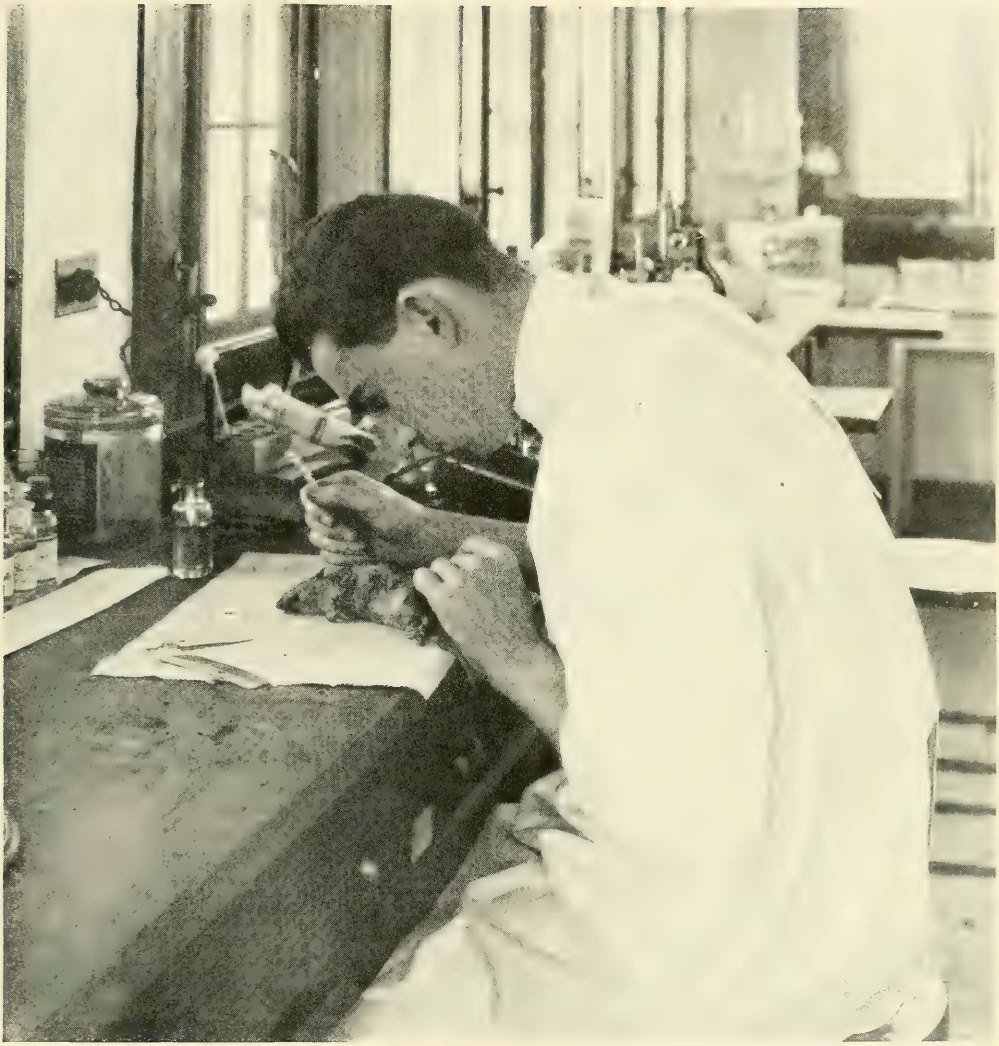
MARKETS, RESTAURANTS, AND SHIPS THEIR FAVORITE ABODE

All ships are known to be infested by rats, and the number killed by fumigation on a single vessel has been known to reach 1,700. Taking into consideration the vast number of vessels engaged in commerce throughout the world, in all of which rats are continually destroying food and other property, it is evident that the sum lost in this way is enormous.

One steamer on a 29-day voyage from India to Antwerp had 44,000 out of 46,000 sacks of grain cut open, entailing an estimated loss of $2,200.

A large milling company in Louisville, Ky., recently asked advice as to controlling the rats and mice on their premises, stating that it has cost them $3,000 a year to repair grain sacks damaged by rodents.

The kitchens and store-rooms of hotels and restaurants are favorite resorts for these pests, which waste and defile far



Photograph from U. S. Public Health Service

FLEA HUNTING BY THE PLAGUE ERADICATORS

To determine the season of the greatest plague danger, the officials of the U. S. Public Health Service carefully examine a large number of the rats caught. In this picture a dead rat is being combed to discover the number and variety of fleas on its coat, the insects having first been killed by chloroform. These data are compiled and plotted as a curve of "flea incidents," showing graphically the season of greatest danger.

more than they eat. One of the last plague-stricken rats found by the Health Service officers in San Francisco was hidden in a sack of peanuts on the third floor of a warehouse.

In 1898 a large packing-house in Chicago had 3,360 hams destroyed by rats. They are also known to attack living animals, and fat pigs have died as a result of having holes eaten in them. They occasionally gnaw the hoofs of horses until they bleed, and Carl Hagenback was obliged to kill three young elephants owing to incurable wounds made on their feet by rats. When confined in cages the larger rats commonly kill and devour the smaller and weaker ones.

A large department store in Washington at one time lost as high as $30 a night in damaged goods, and a hotel in the same city averaged a loss of $75 a month in damaged linen. One merchant in this

Photograph from U. S. Public Health Service

SNAP-TRAPS IN SURFACE SEWERS

In New Orleans snap-traps were placed under the culverts in the surface storm-water sewers. An observer will note that a mouse or rat usually runs along the edge of a wall; therefore the trap is placed against the wall and not at some distance from it.

city had 50 dozen brooms, worth $2.50 a dozen, destroyed, and another had $500 worth of fine china broken in a single night. A harness dealer lost $400 worth of horse collars in a season. Mail sacks and other bags of all description have holes cut in them, and ivory on shipboard or on the docks is gnawed and its value seriously reduced.

In addition to the losses of foodstuffs and merchandise, rats seriously injure buildings, sometimes by burrowing and persistent gnawing almost destroying the foundations. They cut holes in the floors, walls, doors, as well as in chests, wardrobes, bookcases, and closets.

Through rat infestation buildings are sometimes rendered uninhabitable, forcing the tenants to abandon them and causing heavy losses to the owners. An entire block of small houses in Washington was deserted for this cause, resulting in the loss of $2,000 in rents. Occasionally a building is so undermined and weakened by these pests that it must be torn down.

INCREDIBLE NUMBERS IN AUSTRALIA

House mice share a world-wide distribution with rats, and, while much smaller, are to be included with the rats as wasters of food and destroyers of other commodities. Occasionally they increase in numbers until they rival the rats in their destructiveness. Any campaign for the suppression of the rat pest should, as a matter of course, include house mice.

The potentiality existing in these small animals to cause great losses of foodstuffs is now being demonstrated in Victoria and New South Wales, Australia, where during the last few months a plague of mice has developed. Enormous numbers of mice have swarmed about huge stacks containing millions of sacks of wheat, riddling the sacks and causing the stacks to collapse.

The Melbourne *Leader* of May 26, 1917, states that "in some centers the ravages of mice are so great that huge stacks erected some months ago now resemble heaps of debris." The President of the Chamber of Agriculture estimated that the loss might exceed £100,000.

In New South Wales the Wheat Board began a campaign against the mice by double fence traps. The catch for two nights in one place is reported to have

Photograph from U. S. Public Health Service

A POISON SQUAD PREPARING RATBANE

These men are spreading bread with a poisoned paste, which is very effective as a rodent exterminator. This was used successfully in New Orleans in 1914 when a plague epidemic threatened.

totaled seven tons weight of mice. At another point 56,000 mice were caught in four nights. A later report states that the mice had turned their attention to the seed in some districts where sowing had begun and as a result of their depredations further sowing operations had to be discontinued.

Dr. Danysz, of the Pasteur Institute of Paris, estimated the damage from field mice in France during 1903 to approximate £1,000,000.

HUNDREDS OF MILLIONS OF DOLLARS DESTROYED ANNUALLY BY RATS

Rats have been pests so long that they have been taken for granted by the public, much as is the weather or the forces of nature. While people are often painfully aware of individual losses, they are unaware of the vast total which these individual sums aggregate and the consequent need of community action against the authors of such far-reaching economic drains.

Denmark, one-half the size of South Carolina, estimated her losses in 1907 at about $3,000,000. The same year the losses in the rural districts of Great Britain and Ireland, not counting those in towns and on ships, were estimated at $73,000,000, and a capital of about $10,000,000 was profitably employed there in the industry of supplying means for their destruction. In 1904 the losses in France were computed at $40,000,000.

The United States has nine times the combined area of the three countries mentioned, and investigations indicate that the direct annual losses sustained here undoubtedly equal, if they do not exceed, $200,000,000, with a great additional sum in indirect losses, including the effect on the public health and commerce from the diseases carried by rats, and the necessary expenditures in combating them. The foregoing figures are based on pre-war prices and are vastly greater under present valuations.

In Europe, about 1907, after careful

Photograph from U. S. Public Health Service

THE POISON SQUAD SETTING OUT

These men, who are chosen especially for their reliability and carefulness, are setting out to distribute the poison "croutons." A record is kept of each place where poison is placed.

investigation, the estimated average annual loss caused by each rat was computed to equal $1.80 in Great Britain, $1.20 in Denmark, and $1 in France. In the United States the average is undoubtedly much larger than in any of the countries named, especially at present high prices of food and other merchandise.

There is no doubt that a very large number of rats subsist wholly on garbage and waste which is of no value, but the damage caused by rats in numerous places amounts to many dollars each a year; probably $5 a year would not be an overestimate for the average loss caused by each rat living in a dwelling, hotel, restaurant, or other place having ready access to food supplies.

Assuming, roughly speaking, that as estimated the rat population in the United States is 50,000,000 for the cities and 150,000,000 for the rural districts, it will require the destruction of property by each rat of only a little more than one-fourth a cent a day to make the aggregate great sum estimated as destroyed by these pests yearly in this country.

In 1907 a careful survey was made of the damage done by rats in Washington More than 500 business establishments, including factories, stores, livery stables, hotels, and restaurants, were visited. As a result of this inquiry the total losses for the city were estimated at $400,000 yearly. A similar inquiry in Baltimore indicated that the annual losses in that city were about $700,000.

200,000 MEN ARE NOW WORKING SOLELY TO FEED THE RATS

A more definite idea of the losses from rats may be gained by considering what it means in human effort.

Taking the average yearly returns on a man's labor in agriculture, as shown by the census of 1910, it requires the continuous work of about 150,000 men, with farms, agricultural implements, and other equipment, to supply the foodstuffs destroyed annually by rats in the United States. In addition, rats destroy other property, mainly of agricultural origin, the production of which requires the work of about 50,000 men.

Photograph from Zuschlag

OFFICIALS RECEIVING RATS KILLED BY CHILDREN DURING A CAMPAIGN AGAINST THEM IN COPENHAGEN

"By a small reward to the juvenile members of the family for rats captured, the pests may be kept down and the primitive joys of the chase experienced by the young trappers" (see page 17).

This gives a total of 200,000 men, with their equipment, in this country, whose economic output is devoted solely to feeding and otherwise providing for rats. If a small fraction of this army and the money involved could be concentrated in a continuous national campaign against these pests a vast saving could be achieved.

By a nation-wide effort to increase rat-proofing of structures, and to cause a stricter guardianship of food products, combined with the destruction of rats, the number of these pests could be so greatly diminished that the losses from this source would soon be reduced one-half.

Rats should be exterminated not only to stop the tremendous losses of food and other property, to which attention has already been drawn, but in order to protect humanity from some of its most dreaded diseases. It has been conclusively proved that these rodents are practically the sole distributors of the bubonic plague which is communicated to human beings from infected rats by means of fleas.

THEY SPREAD THE PLAGUE

The history of the plague runs back several centuries before the Christian era. There were particularly deadly outbreaks of it in Europe during the Middle Ages. In the fourteenth century it killed from two-thirds to three-fourths of the population of several countries, and it has been estimated that 25,000,000 people died in Europe from this disease, which was known as the "black death." Sir James Crichton-Browne, president of the Society for the Destruction of Vermin, has recorded the fact that in 1907 2,000,000 deaths from the rat-borne plague occurred in India.

The bubonic plague appears to have periods of quiescence, or what might be called periods of incubation; but it is possible that these periods of inactivity may be due to the great reduction in the rat population due to the disease. Suddenly it appears to become virulently active and spreads with startling rapidity. This accounts for its recurrence at varying intervals since the dawn of history.

Photograph from Zuschlag

RATS BEING OFFICIALLY COLLECTED IN COPENHAGEN DURING THE ZUSCHLAG CAMPAIGN

The chronicles of the sea, before the development of steam power, contain many grisly tales of plague ships drifting helplessly on the ocean, their crews stricken with the mortal disease which we now know must have been carried on board by rats. The serious menace from this source still exists in the face of all our modern knowledge.

In the fifteen years following the outbreak of plague in Canton, China, in 1894, this disease was discovered on 156 ships, and 51 countries are known to have been infected through its distribution by commerce.

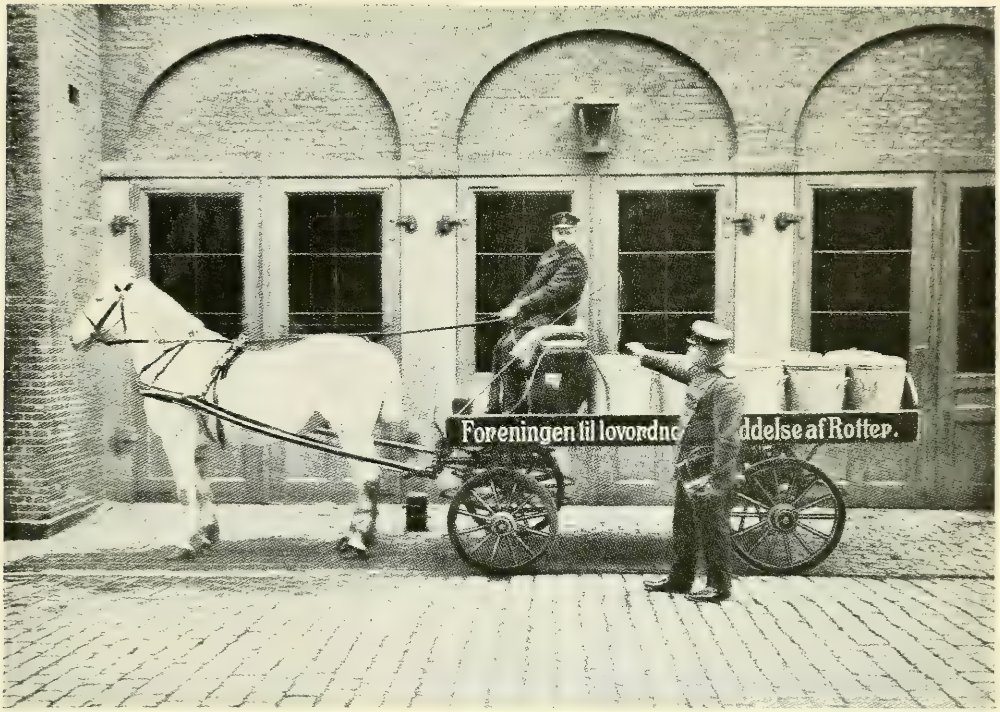
The disease was introduced into the United States at San Francisco, where, in order to control it, the United States Public Health Service made a successful campaign against rats, which resulted in ratproofing much of the city, and thus materially bettering conditions.

Meanwhile, unfortunately, the plague-bearing rats had passed the disease on to ground squirrels living abundantly in the hills surrounding San Francisco. Owing to the wide-spread distribution of ground squirrels in the United States, their proved susceptibility to this disease greatly increases the danger of future outbreaks of the plague in this country.

When it was learned that the bubonic plague is a rat disease which is transmitted to human beings by fleas, it became possible to fight it with intelligence. Owing to the universal distribution of rats and the increase of commerce between communities, the need of incessant vigilance to guard against sudden outbreaks of the plague is evident.

Only through the elimination of these rodents, or a very great reduction of their numbers and their control, can the world feel secure from this dread disease. Although the upkeep of quarantine precautions and other defensive measures against rats in the ports of the world, as well as in interior cities, amounts yearly to a great sum, it is worth all it costs.

In addition to transmitting the bubonic plague, the house rat is known to convey infection of trichinosis, septic pneumonia, epidemic jaundice, and rat-bite fever. It is also afflicted with rat-leprosy, a disease so like human leprosy that they are scarcely distinguishable, and the relation-



Photograph from Zuschlag

OFFICIAL RAT-COLLECTING WAGON IN COPENHAGEN DURING THE PUBLIC CAMPAIGN AGAINST THESE RODENTS

ship of the two is still undetermined. Owing to the fact that rats haunt drains, garbage deposits, and other accumulations of filth, it is unquestionably a potential distributor of diphtheria, typhoid, scarlet fever, and infantile paralysis.

THIEVES OF FERTILE BRAIN

Since the early days rats of one species or another have been a burden to mankind.

The burdensome abundance of rats in Europe during the Middle Ages is indicated by the numerous legends which have come down from that time. The popular folk tale of the Pied Piper of Hamelin and its variants originated in the thirteenth century. The tales of wicked men being devoured by swarms of rats sent as a punishment for their misdeeds and the account of the death of Bishop Hatto by an attack of these rodents in a tower where he had taken refuge run back to the tenth century.

They were such persistent pests at that time and so difficult to control that many efforts were made to rid communities of them. They were anathema and persistent efforts were made to ban them by bell and book, as well as through exorcisms and other mystic ways of the "Black Arts."

A translation of an old Gaelic exorcism against these rodents might well express the farmers' feelings at the present day. One stanza reads:

"No corn in sheaf, nor barley snugly stacked,
Could serve thy turn; but all my garnered grain,
In well-filled sacks, is next by thee attacked.
And all is spoiled, thou thief of fertile brain;
And all my sacks are nibbled, too, and holed—
A sight most aggravating to behold."

In 1745 the first modern attempt to control the rat pest by law was made in the English colony of Barbados, in the West Indies. Another law was passed in 1880, on the West Indian island of Antigua.

Since that date increasing appreciation of the enormous economic losses caused by these animals, as well as the discovery that rats are primarily responsible for the distribution of bubonic plague and other

Photograph from U. S. Public Health Service

RAT-PROOFING OLD WOODEN STRUCTURE: NEW ORLEANS

A cement wall sunk in the ground two feet and extending one foot above will shut out rats from harboring places in many structures

diseases, has led to much and increasing agitation against them, and to the passing of many laws and regulations for their control.

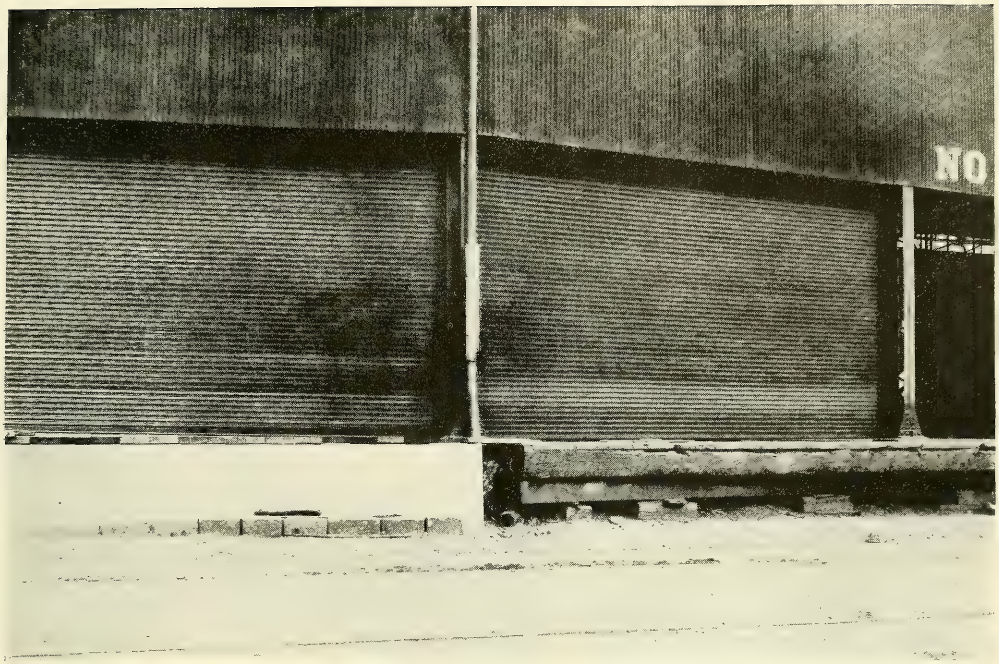
Emil Zuschlag, a Danish engineer who had studied and become thoroughly impressed with the great economic waste produced by rats and mice, organized a Danish society which had a membership of more than two thousand men of standing and influence for the purpose of combating these rodents. The activities of Zuschlag and the proof he gathered of the enormous destructiveness of rats led to the passage, in 1907, of the Danish rat law. Zuschlag also formed a second society, entitled "L'Association Internationale pour la Destruction Rationelle des Rats," in which every country of Europe was represented officially or otherwise except Great Britain. In the latter country was organized for a similar purpose "The Incorporated Society for the Destruction of Vermin." Subsequently, England and other countries in Europe and elsewhere passed laws promoting the destruction of rats.

THE OPPORTUNITIES FOR OUR CITIZENS

Rats have been for so long a time a part of man's environment that he has finally come to accept them more or less as a matter of course. As the result, notwithstanding the enormous losses from them, it is difficult to awaken the vast majority of the public to the gravity of the situation in order that a continuous and earnest campaign may be made for their suppression.

Rats are quickly responsive to the conditions of life in every locality, and where poorly kept buildings exist and food is plentiful they will continue to abound. The householders or community abolishing sheltering places of rats and guarding food supplies from them, and trapping the resident animals, will soon have a marked diminution in their numbers.

They will, however, continue to be annoyed by the inroads of rats from neigh-



Photograph from U. S. Public Health Service

A RAILROAD WAREHOUSE IN NEW ORLEANS

Showing method of rat-proofing by a concrete wall. The part not walled is a sample of conditions which are ideal for the rats.

bors, thus strongly evidencing the need of a still wider campaign against them. Any person failing to abolish rat shelters on his property is maintaining a public nuisance, menacing not only his own property and the health of his family, but that of his neighbors and the community at large.

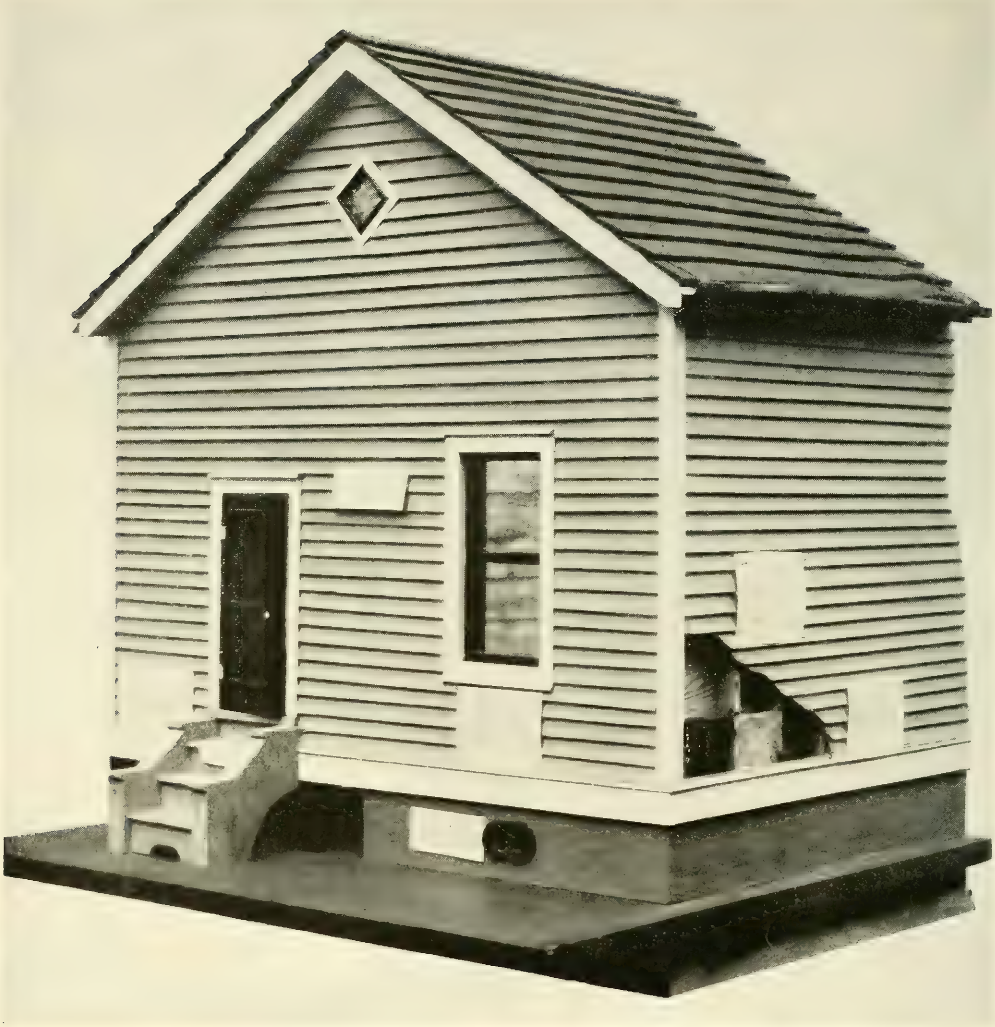
On premises where rats occur traps should be used persistently to keep down the number, as they will continually come in from elsewhere. By a small reward to the juvenile members of the family for rats captured the pests may be kept down and the primitive joys of the chase experienced by the young trappers. The popular estimate of the usefulness of cats and ferrets in catching rats and mice is very much exaggerated.

The personal relief to be had by persistently trapping rats on the premises is indicated by the results at a suburban summer home near Washington, where from fifty to sixty (and several hundred mice) are captured each year. Without this reduction in numbers rats would increase and render conditions extremely burdensome.

Civic organizations which desire to better conditions in their communities have no more fertile field before them than that of controlling rats among the markets and establishments dealing in produce and other food in their cities. A large part of the food supplies of nearly all of our communities is handled in places swarming with rats and mice.

Produce dealers are usually located on contiguous premises, usually in old buildings under which the ground is honeycombed with rat burrows and the walls are so riddled with holes that rats pass freely from store to store through entire city blocks. Here meats, poultry, fish, fruits, and vegetables are dealt with in great quantities. For a large part of each day rats in almost unlimited numbers swarm in and over this food, eating some of it, and polluting quantities of it which pass on to the consumer.

These repulsive conditions prevail largely because property owners desire to avoid the expenditure necessary to ratproof buildings. This could be done at so small a cost that it is a discredit to civilization that communities of intelli-



Photograph from **U. S.** Public Health Service

MODEL OF RAT-PROOF HOUSE

These diminutive buildings, designed by the U. S. Public Health Service, are used in instructing the general public how to comply with the rat-proofing ordinances, which have been adopted in many American cities since Surgeon General Blue's epoch-making work in California. Note how the underpinning of the doorstep is cut away so that rats and mice can find no shelter underneath. There is a heavy wire grating over the ventilation opening in the foundation wall and a section of the side wall is cut away to show the brick or concrete "stop" between the joists to prevent rats from getting into the box between the outer and inner walls and there having safe harborage.

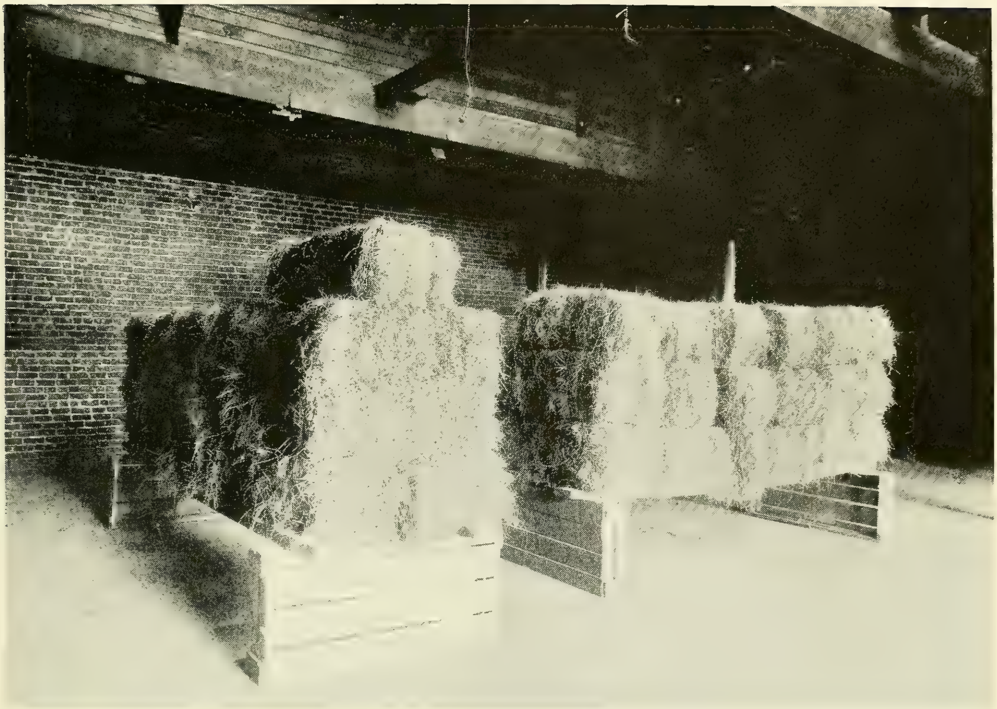
gent people should tolerate such unsavory and unhealthy conditions.

OUR U. S. PUBLIC HEALTH SERVICE LEADS THE WAY

Ordinances should be passed and rigidly enforced forever to end this situation. The cost of the proper rat-proofing measures would quickly pay for itself in the saving of foodstuffs, and would warrant increased rent to the owners, in addition to conferring a lasting benefit on the communities involved.

Surgeon General Blue's dictum that "rats must be built out of existence" well indicates the importance of rat-proofing in the war against these rodents.

One of the most effective campaigns



Photograph from U. S. Public Health Service

RAT-PROOFING BARNS AND STABLES BY ELEVATION OF CONTENTS

The baled hay in this case has been raised so as to give rats no place to hide

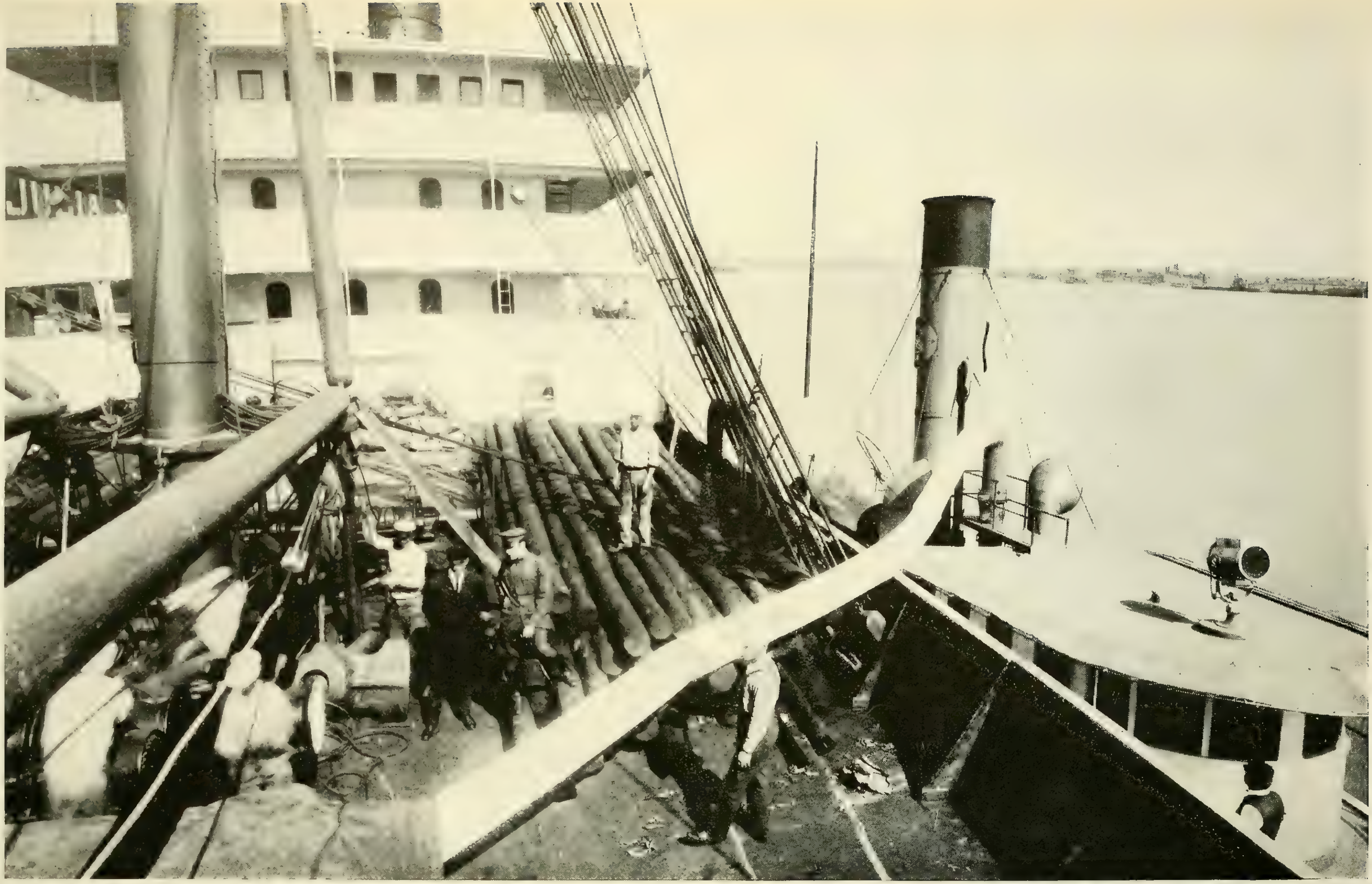
ever conducted against rats has been that of the United States Public Health Service for the purpose of eradicating bubonic plague from San Francisco and New Orleans and to prevent its gaining a foothold in other American ports, but the results were much less than they might have been with more extended coöperation.

Zuschlag and others who have given the rat question serious study have agreed that it will be extremely difficult to secure the far-reaching results so desirable in the control of this public menace except by international action. The fact that when rats are destroyed in one area they tend to reinfest it from surrounding regions greatly lessens the effectiveness of local campaigns. For this reason, while local campaigns are useful and extremely desirable in relieving local conditions, the final great public relief will come when the campaign is broadened to international proportions.

At this time, when all civilized nations are care-ridden with the fear that gaunt Hunger may stalk through the world, it is essential that foodstuffs be safeguarded as never before. To accomplish this the main sources of preventable waste should be located and controlled. The foregoing pages have shown that among these elements of waste the house rat stands preëminent and deserves the most serious attention.

RATS SHOULD NOT BE TOLERATED AT A TIME WHEN THE ENTIRE WORLD FEARS A WORLD FAMINE

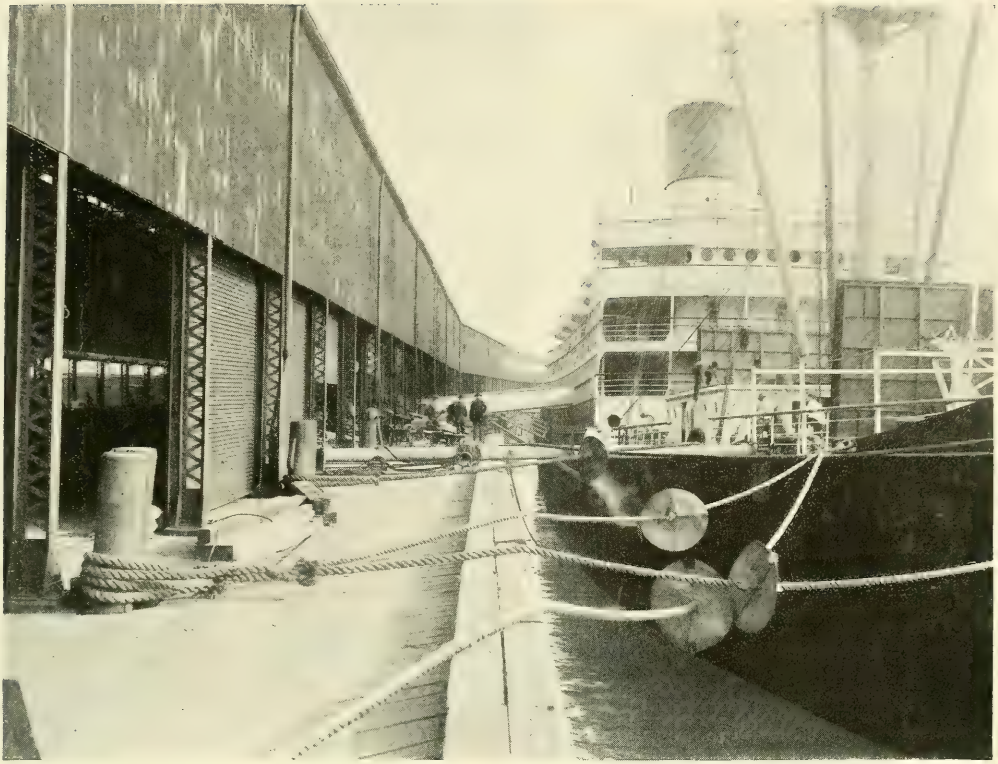
The remedies against this pest are comparatively simple and may be put in effect to advantage by every householder, as well as by mercantile establishments and organizations. For modern communities to continue to harbor these loathsome parasites is merely to prolong the survival of careless methods of individual and community housekeeping incident to barbarous times. Every health officer and every well-informed person knows the extending menace these pests present to himself and neighbors. Why, then, should we not cease feeding and sheltering them?



Photograph from U. S. Public Health Service

FUMIGATING SHIPS WITH CARBON MONOXIDE TO DESTROY THE RATS

Funnel gas from the Public Health Service tug, which would otherwise be wasted, is washed, cooled, and pumped into the holds of ships to kill the rats. It does not harm the cargo, but is very destructive to the rodents. This is done when the ship comes into port and before the cargo is unloaded. "All ships engaged in sea-going, coastal, and inland waterway traffic should be fumigated at stated intervals for the purpose of destroying the rats which harbor in them and are thus transferred from place to place" (see text, page 23).



Photograph from U. S. Public Health Service

GUARDS PLACED ON THE HAWSERS TO KEEP RATS FROM BOARDING THE SHIP

On the lines by which a ship is tied up to the wharf are placed metal disks which look like the "messengers" boys send up on kite strings. These disks are two feet in diameter and prevent rodents from landing or taking passage by way of the hawser. The ship is "breasted off" with a spar, seen in the background, which is also guarded by a similar sheet of metal. As an additional precaution, the gang-plank is painted white for a space of twenty feet. This is guarded by a quartermaster when in use and elevated when not.

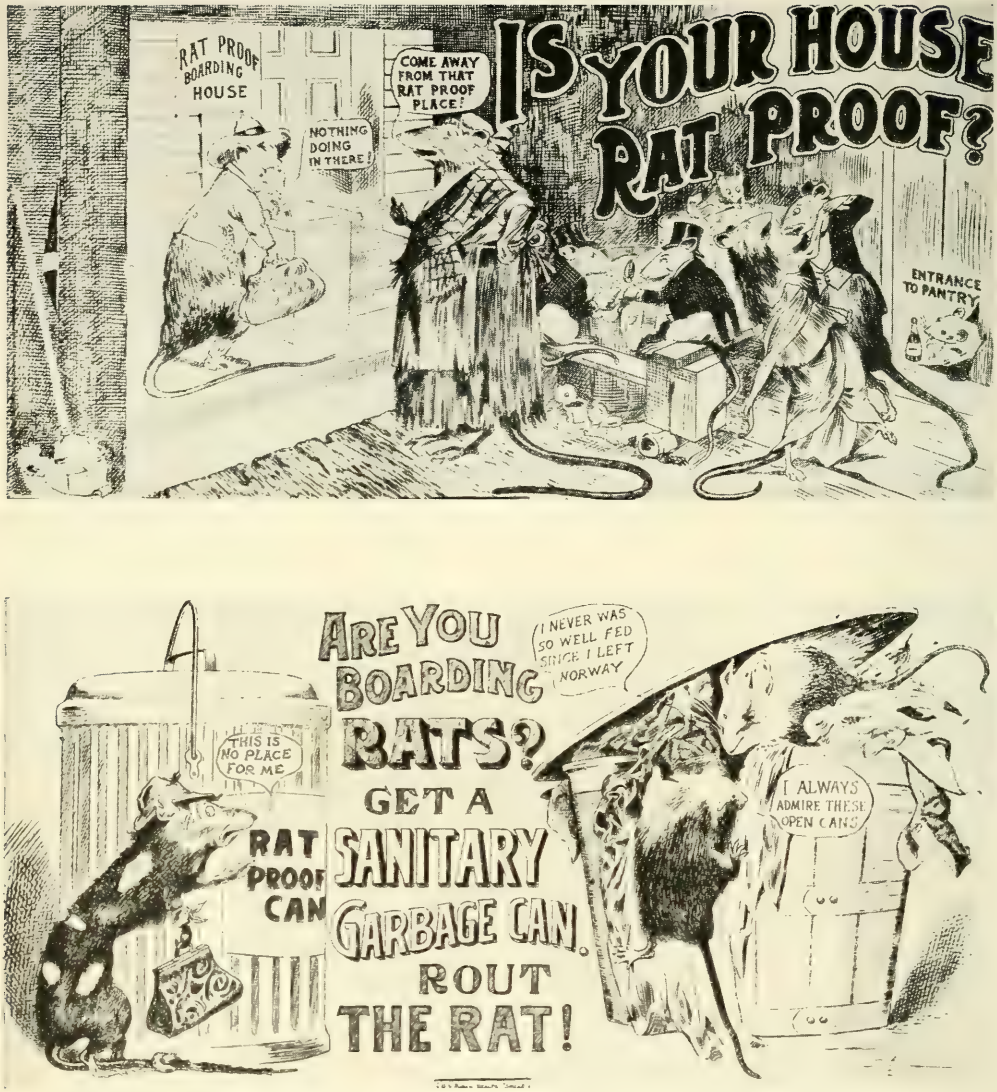
It should be kept in mind that so long as good shelter and plenty of food are available rats will thrive and increase. Under such conditions trapping alone will be ineffective, since unless otherwise controlled the supply of rats will be inexhaustible. Use concrete, wire netting, and sheet metal to rat-proof buildings, and keep food and foodstuffs within rat-proof containers (or buildings), and the number of rats will naturally diminish. Then by means of traps or poison the survivors can be readily eliminated from the premises.

Rat-proofing in some degree, as well as extra care in safeguarding food supplies, whether in the granary or pantry, should accompany all efforts to eliminate rats. By these methods the householder may free himself from their obnoxious presence.

It may be stated here that many claims have been made as to the effectiveness of different serums and viruses for the destruction of rats by spreading contagious diseases among them; but extended experiments, particularly in this country, have, so far as the writer is informed, failed absolutely to give the desired results. The reliable and successful remedies lie in the use of concrete and other modern building materials, with effective traps and poison used thoroughly in active, individual, community, and national campaigns.

ORGANIZED EFFORTS ARE NECESSARY

The only really satisfactory way of handling the rat problem is by organized efforts. This is particularly true, owing to the fact that even with all property owners doing their duty many public and


RAT PROOF BOARDING HOUSE
NOTHING DOING IN THERE!
COME AWAY FROM THAT RAT PROOF PLACE!
IS YOUR HOUSE RAT PROOF?
ENTRANCE TO PANTRY
ARE YOU BOARDING RATS?
I NEVER WAS SO WELL FED SINCE I LEFT NORWAY
THIS IS NO PLACE FOR ME
RAT PROOF CAN
GET A SANITARY GARBAGE CAN. ROUT THE RAT!
I ALWAYS ADMIRE THESE OPEN CANS

Photographs from U. S. Public Health Service

STREET-CAR POSTERS USED IN NEW ORLEANS DURING THE RAT CAMPAIGN BY THE U. S. PUBLIC HEALTH SERVICE

semi-public places will remain to be treated. Here is where civic organizations, including boards of trade, may take leading parts. Rat-proofing and the formation of rat clubs for killing these rodents may be promoted in addition to encouraging individual efforts. The following suggestions are for action along these lines:

1. The public may be educated in methods of rat-proofing, protecting food supplies, and trapping and poisoning rats and mice.

2. Funds may be raised for the payment of premiums or prizes for killing rats in contests arranged under local organizations or committees.

3. The campaign can be enlarged by civic organizations, not only securing neighborhood action, but by their assistance in bringing about more general action.

4. Voluntary coöperation for the public welfare in this matter should bring about municipal ordinances as well as State and National legislation. A begin-

ning of such legislative action has been made in the United States, notably in New Orleans and San Francisco.

The State of Indiana has a drastic law providing for the destruction of rats on all premises, and giving the Governor authority to set aside one "rat day" in spring, when the public should join in a general effort to destroy these pests throughout the State. Unfortunately this law makes no provision for rat-proofing as well as killing rats, and until amended will be seriously defective. Meanwhile, through lack of proper public sentiment behind it, the law is not being enforced.

Measures for the control of rats should provide for certain fundamental requirements as follows:

New buildings should be made rat-proof under rigid inspection.

Existing rat-proof buildings should be closed to rats by wire mesh or fine grating over all windows and doors accessible to them. Old buildings not rat-proof should be remodeled and concrete, wire mesh, and other material used to render them practically rat-proof.

Harboring places, such as old sheds, piles of trash, old lumber, wooden sidewalks, open stone walls, and garbage dumps, should be abolished.

All garbage and food waste on which rats may feed should be protected from them and promptly removed.

All markets and other public buildings should be promptly rat-proofed and frequently inspected.

All ships engaged in sea-going, coastal, and inland waterway traffic should be fumigated at stated intervals for the purpose of destroying the rats which harbor in them and are thus transferred from place to place.

So-called civilized man has had with him from barbarous times a variety of vermin, including insects and mammals, nearly or quite all of which are carriers of deadly diseases. Only within a comparatively few years have advancing knowledge and public sentiment combined to bring about any considerable efforts to subdue and eliminate these pests. The public is rapidly awakening, however, to the dangers involved in them and is becoming more and more determined in its efforts to control these causes of enormous losses, both in property and human life.

Through the efforts of Dr. L. O. Howard and others, the house fly—the "typhoid fly," as it has been well termed—is now under the ban of general public disapproval.

The Spanish War developed the fact that the mosquito was the carrier of yellow fever. Another type of mosquito is known to be the carrier of malaria. The European War has brought to almost universal public knowledge the fact that body lice are carriers of the deadly typhus, and many diseases are known to be carried by other insects.

Among these deadly carriers of death and destruction none equals the house rat in its tremendous drain on the prosperity of nations by its destruction of food and other property, while at the same time it is the deadliest of all to mankind as a disease carrier. Within historic times it has caused the death of untold millions of human beings and its devastations are still in progress.

There is little doubt that the time will arrive in the not distant future when persons maintaining rat-breeding resorts on their premises will be looked upon with the same disfavor that now visits those who harbor vermin of a lowlier degree.*

*A bulletin giving brief practical advice for rat-proofing structures and for destroying rats has been published for distribution by the Biological Survey, U. S. Department of Agriculture, Washington, D. C. Written inquiries for expert information on these subjects may be directed to the same address.

RUSSIA'S MAN OF THE HOUR

Alexander Kerensky's First Speeches and Proclamations

THOSE who, like Plutarch, seek for parallels in the lives and characters of men whose genius directs the fate of nations, will find many interesting points of similarity between the Man of Destiny of the French Revolution and the Man of the Hour in Russia's day of liberation from the oppression of autocracy. Napoleon was in his 31st year when he became First Consul of the French Republic; Kerensky, premier of the Russian cabinet and now exercising the powers of dictator in order to restore order in the empire, is just 36.

Throughout his career Napoleon suffered from an incurable internal malady, supposedly cancer of the stomach; Kerensky is also tortured by a disease (supposedly tuberculosis of the liver) which prevents his working at fever heat more than a few weeks at a time: then he is forced by weakness to recuperate for three or four days in a sanitarium in the Crimea.

Napoleon's judgment of men was instant and almost infallible; Kerensky is reputed to possess the same faculty to a marked degree.

The accompanying addresses and proclamations, translated for the NATIONAL GEOGRAPHIC MAGAZINE from official copies in the offices of the Russian Embassy at Washington, are their own best commentary on the incisive, forceful style of Kerensky, the impassioned orator. His exhortations to the soldiers of the new Russia have much in common with the inspiring appeals of Napoleon to his troops before the Battle of the Pyramids and elsewhere.

In personal appearance Kerensky is described as a man of medium height, with close-cropped brown hair, flashing brown eyes, and a face which in repose has a strained, almost embittered, expression, but which lights up magically with a broad, generous smile.

Recent pictures of the premier show his right arm in a sling, but no news has been allowed to pass the Russian censor as to how the nation's foremost revolutionary figure was injured, whether by a bullet at the front or by the attack of some anarchistic enemy among his own people.

The Provisional Government of Russia came into existence on March 14, 1917, as a result of agreement between the Executive Committee of the Duma and the Council of Workmen and Soldiers. The new government was composed mainly of representatives of Liberal political views—the views of the Russian middle class.

Alexander Kerensky, who was the only member of the Provisional Government to represent the Socialist parties, took the portfolio of Minister of Justice. He appeared as the link between the government and the broad Russian masses.

Immediately following the announcement of the organization of the Provisional Government, Kerensky delivered two addresses—one before the Council of Workmen and Soldier Deputies and the second before a mass meeting of soldiers and citizens gathered in front of the Duma. In these speeches the Minister explained the motives which induced him to become a member of a cabinet composed mainly of representatives of the middle-class parties.

SPEECH BEFORE THE COUNCIL OF SOLDIERS AND WORKMEN

"Comrades, do you believe me? Do you have faith in me?" (*Cries from every part of the chamber, "Yes, we have! Yes, we have!"*) "I speak, comrades, from the very depths of my heart. I am ready to die should it become necessary." (*General excitement and a great deal of applause, followed by a continuous ovation.*)

"Comrades, in view of the organization of the new government, I felt it my duty

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ALEXANDER FEODOROVITCH KERENSKY (IN THE AUTOMOBILE), AS MINISTER OF WAR, REVIEWING RUSSIAN TROOPS AT THE FRONT

"On the tips of your bayonets you will bear peace, right, justice, and fair play; in straight ranks, strengthened by discipline of duty and undying love to the revolution and country, we will go forward, free sons of Russia." In these words Russia's Man of the Hour inspired the republic's army to assume the offensive.

immediately, without awaiting your formal sanction, to reply to the invitation extended me to assume the responsibilities as Minister of Justice." (*Stormy applause.*)

"Comrades, representatives of the old government are now in my power and I have made up my mind not to give up control over them." (*Loud applause, cries "Correct."*) "I received the invitation and became a member of the Provisional Government as Minister of Justice." (*Applause and cries "Bravo!"*) "My first step was the issuing of an order calling for the immediate liberation of all political prisoners, without any exception; also that our comrades, the deputies of the social democratic faction now in Siberia, be escorted here with honors." (*Thunderous applause and great enthusiasm.*)

"In view of the fact that I have assumed the responsibilities of the Minister of Justice prior to receiving your formal sanction, I now resign as vice-chairman of the Council of Soldiers and Workmen; but I stand ready to again assume that title should you find it necessary." (*Applause and cries, "You are welcome to it!"*)

"Comrades, having entered the cabinet of the Provisional Government, I remain the same man as I was—I remain a republican." (*Loud applause.*) "I made it plain to the Provisional Government that I appear as a representative of democracy, and that the Provisional Government must regard me as the spokesman of democracy's demands. Comrades, time is not waiting. Every minute is dear. I call you to organization, discipline; I ask you to extend help to us, your representatives who are ready to die for the people."

SPEECH TO THE SOLDIERS AND CITIZENS

"Comrades, soldiers and citizens, I am the member of the Duma, Alexander Kerensky, Minister of Justice." (*Loud and enthusiastic cheers.*) "I declare in the presence of all of you here that the new Provisional Government has assumed its responsibilities and duties in agreement with the Council of Soldiers and Deputies.

"The agreement made between the Executive Committee of the Duma and the Executive Committee of the organization of Soldier Deputies has been approved by the Council of Workmen and Soldier Deputies with a majority of several hundred against fifteen." (*Great applause and cries "Bravo!"*)

"The first step of the new government is the immediate publication of the act of full amnesty. Our comrades of the second and fourth Duma, who were illegally sent to the wilderness of Siberia, will be immediately liberated and brought here with honors.

"Comrades, in my power are now all the representatives of the ex-Council of Ministers and all the ministers of the old order. They will answer, comrades, for all crimes committed by them before the people in accordance with the law." (*Cries "Without mercy!"*)

"Comrades, free Russia will not stoop to those humiliating means of struggle which characterized the acts of the old régime. No one will be punished without trial; all will be judged in an open peoples' court.

"Comrades, soldiers and citizens, every step taken by the new government will be public. Soldiers, I beg of you to coöperate. Free Russia has become one, and no one will succeed in tearing freedom from the peoples' grasp. Do not mind the exhortations coming from the agents of the old order. Pay attention to your officers. Long live free Russia!" (*Thunderous applause and cries "Hurrah!"*)

THE FIRST PROCLAMATION OF THE MINISTER OF JUSTICE TO THE PEOPLE

"Citizens! So far every order coming from the Provisional Government, and having in view the complete defeat of the old régime and the establishment of the new order, has been executed by the people without bloodshed. The honor of the nation demands that the first radiant days of liberty be not befogged by thoughtless and intolerable acts of violence; such acts must be avoided in spite of the natural unrest of citizens.

"Conscious of the greatness of the moment, all citizens must voluntarily take all the necessary steps tending to preserve the liberty of every individual without the slightest exception. Be it known to all that the guilty will be put to just trial, which will result in punishing all according to their deserts.

"Citizen A. KERENSKY,
"Member of the Duma,
"Minister of Justice."

KERENSKY AT MOSCOW

A few days following the organization of the Provisional Government, Kerensky, at the instance of the government, visited Moscow. His arrival there was the occasion of many demonstrations and festivities given in the honor of the new order and the Provisional Government. In reply to the greetings and addresses made at his reception, Kerensky spoke as follows:

"I can scarcely find words in reply to your greetings, addressed through me to

Photograph by George H. Mewes, courtesy of London Daily Mirror

WATCHING THE GERMANS FROM AN OBSERVATION POSITION

The General of Division thinks he has located a battery of 12-inch Skoda howitzers and has asked his aide to have a look

the Provisional Government. What I have lived through during those days of grandeur! I have always fulfilled my duty, and if I have done what I have done, it was only because I knew that the Russian people is a great people; that the Russian democracy is a great democracy. I am here as her tool, and by reason of this I am happy. I act because of my faith in the people and democracy. I step firmly along a great wide road because I well know the workingmen, the peasantry, and the whole people.

"I am here in the name of the Provisional Government, which came into being and assumed the great governmental powers, called forth by the people and the Duma. I come here bearing greetings. I came here to let it be known that we are placing ourselves at the disposal of the entire nation, and that we will fulfill the will of the people to the very end, up to the time of the assembling of the Constitutional Assembly. I came here to ask of you, Shall we go to the very end?"

DOES NOT WANT TO BE THE MARAT OF THE RUSSIAN REVOLUTION

At one of the numerous mass meetings held in Moscow in Kerensky's honor he was asked about the fate of the Russian dynasty. In reply the youthful minister said:

Photograph by Gilbert H. Grosvenor

THE COAST OF FINLAND, NEAR HELSINGFORS

The shores of Finland bordering on the Gulf of Finland are dotted with many hundreds of small rocky islands. There are also many submerged rocky ledges. The gulf is about 250 miles long from its head near Petrograd to the sea, and about 40 miles wide between Helsingfors and Reval.

"Nicholas II is resigned to his fate and has asked the help of the Provisional Government. I, as Minister of Justice, am holding his fate, as well as that of his dynasty, in my hands; but our marvelous revolution was almost bloodless, and I do not want to be the Marat of the Russian revolution. There should be no place for vengeance."

ADDRESS TO THE ARMY, CONCERNING THE PROBLEMS OF THE PROVISIONAL GOVERNMENT

Soon after the organization of the Provisional Government, Petrograd became the Mecca for numerous delegations sent from the front by the various parts of the army. The delegates were sent to the capital with a view of ascertaining the program of the Provisional Government, as well as the government's relation to the Council of Workmen and Soldiers. One of these delegations Kerensky addressed as follows:

"The greatest problem facing the Provisional Government at this time is to uphold the unanimity of mind and action of the Russian nation at this the crucial hour of our lives. At the present moment nothing threatens the solution of the problem. Between the Provisional Government on the one hand and the Council of Soldiers and Workmen on the other, there is today full unanimity both as regards problems and aims. If there is some disagreement, it only relates to questions of tact, to questions of what can be done today and what may be postponed until tomorrow. But these tactical differences are at present being gradually overcome and will, I hope, all be overcome by mutual consent.

"The Provisional Government has at its command full governmental powers.

"But in solving our problems we are in need of criticism and control; therefore do not be dismayed and do not think that criticism and control by the public is interfering with our work. We are the more in need of control and criticism by the Council of Soldiers, Workmen, Peasants, and Officers' Deputies, because they all represent the people and the Russian democracy.

"It may be that you are somewhat disturbed by noisy agitations. Certain words appear to be the evil of the day. But we, the Provisional Government, are not in the least dismayed by such manifestations.

"We believe in the common sense, in the iron will of the people—to march to salvation and not to ruin, because no one desires to bring about his own ruin. We believe that in the end constructive problems and not isolated party slogans will triumph.

"If we do not at this moment give the army all that it needs it is not because we do not want to, but because we cannot.

"The old régime has left everything in a state of chaos; coal has disappeared from the market, metals have disappeared, and the population was starving. Money was dwindling down in value, the nation was being impoverished, and this brought about the high prices. In this shape we have come unto our inheritance.

"However, we assume the responsibility because we believe that the people will understand the impossibility of creating at a moment's notice all from nothing. We believe that the people, having become the master, will endeavor to grasp the cause of the country's needs. Our belief has not deceived us; the people have without hesitation set about organizing life. And the army does not as yet get all; but still it already gets more than has been the case under the old régime.

"As to the agrarian question, all that I can say is that by reason of my views and convictions I am in sympathy with the slogan, 'Earth and Liberty.' The people must get Earth and Liberty in their full scope. In this respect the Provisional Government has committed itself through 'definitely' assumed obligations. We feel it is our duty to state that the question of the new forms of land ownership can be solved by the Constitutional Assembly only.

"I assure you that the question of land will not be solved without the consent of the front.

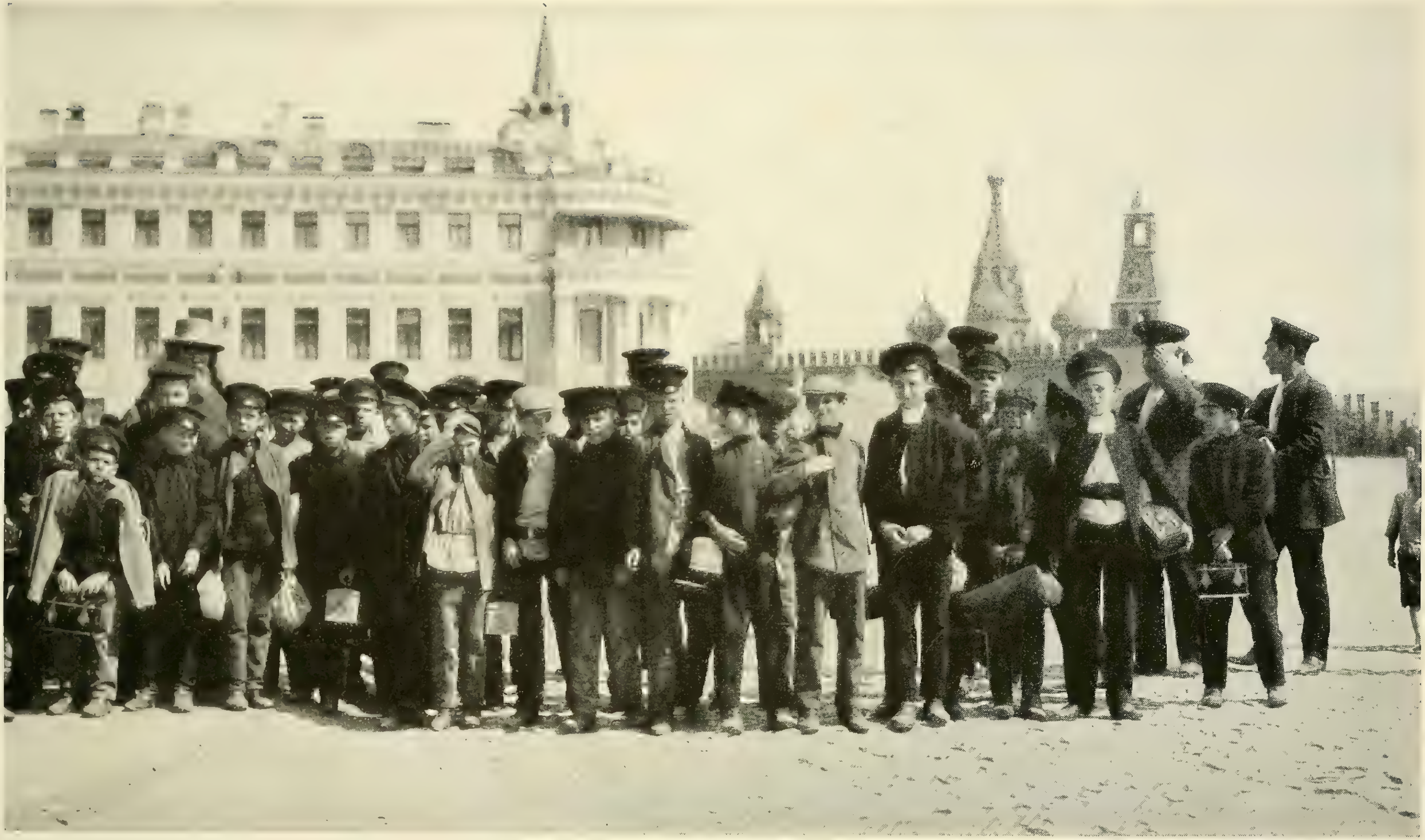
"For centuries we have grown accustomed to wait without getting anything, and now we want to get all without waiting a single day. To transform an Asiatic monarchy into the freest republic on earth, endeavoring to avoid mistakes made at various times in western Europe, is a problem that cannot be solved in the course of a few days. The solution of the problem requires, if not years, at least several months.

"And we will effect our purpose by striving toward it with all powers at our command; but we must be on the lookout not to overreach it in our dash forward, else we are most likely to overreach the aim and leave it behind us. Therefore our nearest and primary object must be the organization of the masses.

"It is only the organized masses that march to their goal not as dreamers, but as people engaged in the erection of a new State, with full knowledge of the work at hand. Remember, that the ultimate result depends on our perseverance and power of self-control.

"You must not be dismayed by talk of a counter-revolution. No counter-revolution is possible, for the simple reason that there is no imbecile who will dare to rise against the will of the entire army, the entire peasantry, the entire labor democracy, and the will of entire Russia.

"We will attain all, provided we can grapple with the only danger facing us, provided we can battle with those who will take a notion of reaching out a hand from outside, and thus help the hidden



Photograph by Gilbert H. Grosvenor

RUSSIAN SCHOOL-BOYS IN MOSCOW

The patriarchal individual on the left is the schoolmaster, who is escorting his pupils to the historic places in the ancient capital of Russia reaction; those who will want to vanquish the front, to vanquish liberty.

"The first word voiced by the Provisional Government concerning the war was the rejection of annexation, the rejection of aims of robbery, the rejection of that which is named Imperialism. But we demand, and we will make our demands known to those who will not listen to them, that we have a right to a free life and a right to our place on earth, which we will yield to no one.

"No soldier, no sailor of any government has the rights that you have. Outside of your regiment you are absolutely free. But great rights impose great duties. I have no doubt that you will fulfill these duties—your debt to the nation and democracy."

A LEADER WILLING TO STEP ASIDE

In spite of Kerensky's enormous popularity with the masses, his activities as a member of the Provisional Government have been frequently criticised by extremists. The criticisms were also voiced within the Council of Deputies. This moved Kerensky to address the Council as follows:

"I have heard there are rumors afloat among you to the effect that my attitude toward the old authorities and the Imperial family is gradually weakening. I have heard that there appear among you people who dare to express a lack of confidence in me.

"I warn all who speak thus that I will not permit a disbelief in me, and through me insult Russian democracy.

"I ask of you to either exclude me from your midst or to give me your full confidence." (*Great applause and cries, "Bravo!"*) "You accuse the Provisional Government and myself of being too indulgent with the members of the Imperial family; you say that we leave them free and treat them with consideration.

"I was at Tsarskoye Selo, where I met the officer in command there and spoke with the soldiers. The commandant of the Tsarskoye Selo Palace is a good friend of mine, in whom I have absolute confidence. The garrison promised me to obey all my commands.

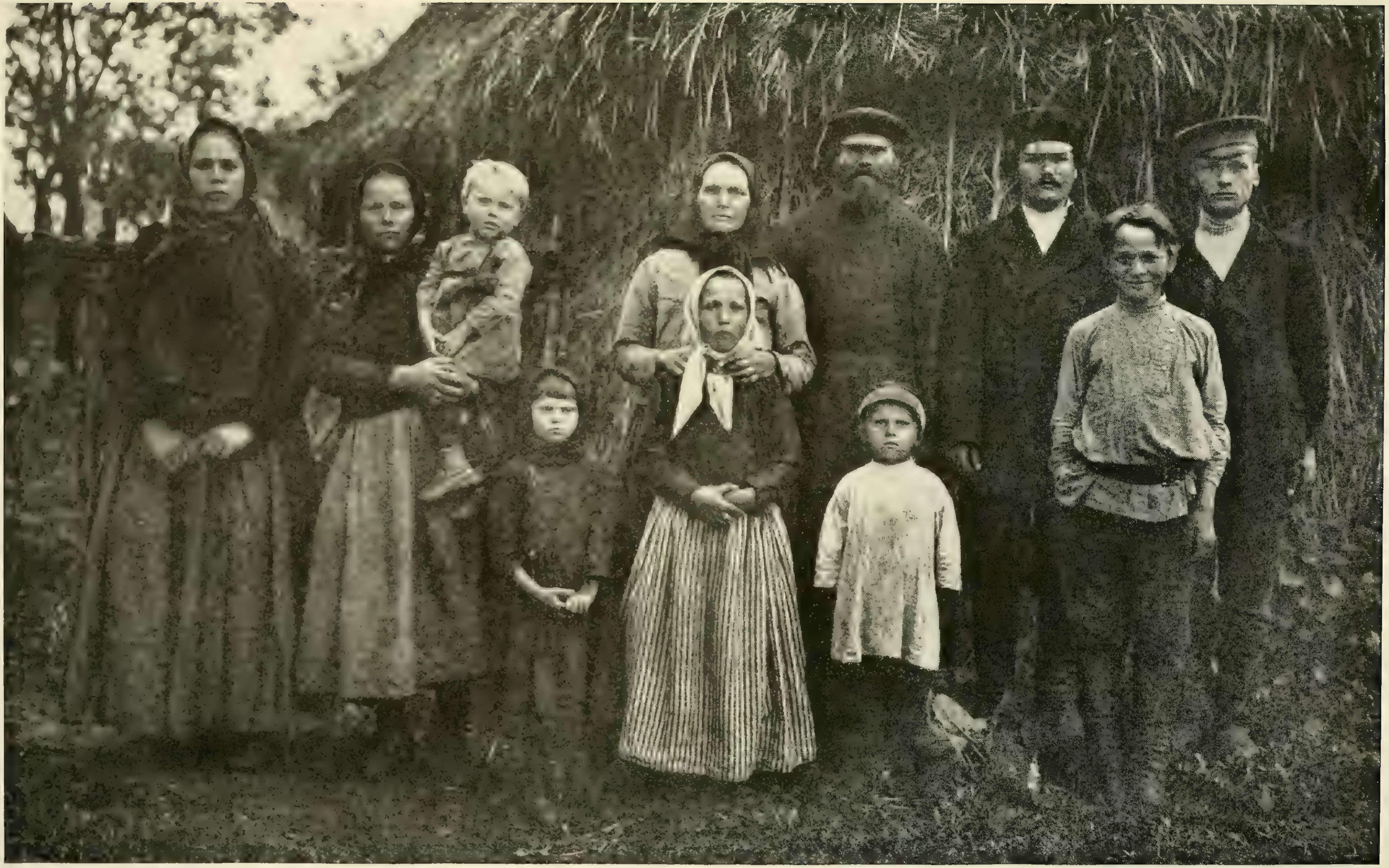
"You doubt because there are several members of the Tsar family who are still at liberty, but at liberty are those only who in common with you have protested against the old régime and the rascalities of Tsarism. Dmitry Pavlovich is free because he, too, struggled with the old order up to the very last. He worked out a plan to kill Rasputin, and therefore he has a full right to remain an officer of the Russian army in Persia.

"Comrades, soldiers and officers, remember that the work of the Provisional Government is one of enormous responsibilities. The Provisional Government stands for liberty, right, and Russian independence, and it will stand there up to the very last. The equal responsibility for the fate of our country rests on us, on your Provisional Government. In the name of your debt to the country, we must all work together in full unity." (*Stormy applause.*) "I became a member of the Provisional Government as your representative and I endeavored to the utmost of my power to champion your interests and opinions.

"I worked for your good, and I will continue doing so as long as you believe in me and as long as you are frank with me; but there appear people who want to create enmity between us. Remember that it is the duty of all of you to continue your good work, and if you will I shall work together with you; if this be not your wish, I shall step aside. I want to know, Do you believe me or do you not?" (*Great applause, culminating in an ovation. Cries, "You are welcome! You are welcome! We believe in you!"*)

KERENSKY'S SPEECH ABOUT THE POLITICAL CRISIS

The first cabinet, as is well known, came into being as a result of a decision arrived at during a conference held between the Duma and the Council of Soldiers and Workmen Deputies. Nevertheless there was much discrepancy between this cabinet and the political status of the great mass of soldiers and workmen which today represents the backbone of the revolution. At the time when most of the ministers were representatives of the Russian middle class, belonging to her



Photograph from H. S. Cresswell

THE RUSSIAN FAMILY AT YASNAYAH POLYANAH, RUSSIA, FROM WHICH TOLSTOY OBTAINED HIS COACHMAN: THE LATTER IS THE CENTRAL FIGURE OF THE THREE MEN STANDING WITH CAPS ON liberal parties, this the people's element was represented in the government by only one man—Kerensky.

These circumstances caused lack of confidence toward the government among the great masses and in the army. The people regarded the cabinet as composed of "bourgeois." The government had no great prestige and was lacking in power. The circumstances, however, required a strong concerted authority which would have the power to carry out all decisions arrived at. This brought about a political crisis which led to the formation of the new coalition government. During those days soldier and officer delegates from every part of the front held their first congress in Petrograd. It was before this congress that Kerensky delivered the following address:

"Two months have elapsed since the birth of Russian freedom. I did not come here in order to greet you. Our greetings have been dispatched to your trenches long since. Your pains and your sufferings were one of the motives prompting the revolution. We could no longer endure the imbecile lavishness with which the old order spilled your blood. I believed throughout the two months that the only power which can save our country and lead her on the right path is the consciousness of responsibility for every word and every act of ours—a responsibility resting on every one of us. This belief I still hold.

"Comrades, soldiers and officers, I well know what your feelings are there in the trenches, but I also know what is going on here. Possibly the time is near when we shall have to say to you, 'We cannot give you all the bread which you have a right to expect of us and all the ammunition on which you have a right to depend,' and this will not come about through the fault of those who two months ago assumed before the tribunal of history and the whole world the formal and official responsibility for the honor and glory of our country.

"The situation of Russia at present is complex and difficult. The process of transformation from slavery to liberty does not, of course, assume the form of a parade. It is a difficult and painful work, full of misconceptions, mutual misunderstandings, which prepare a field for cowardice and bad faith, turning free citizens into human dust.

"The time of the isolated countries is past. The world has long since become one family, which is frequently torn asunder by internal struggles, but which is nevertheless bound together by strong ties—economical, cultural, and others.

"Should we, as contemptible slaves, fail to organize into a strong nation, then a dark, sanguine period of internal strife will surely come, and our ideals will be cast under the heels of that despotic rule which holds that might is right and not that right is might. Every one of us, from the soldier to the minister, and from the minister to the soldier, can do whatever he pleases, but he must do it with eyes wide open, placing his devotion to the common ideal above all else.

"Comrades, for years we have suffered in silence and were forced to fulfill duties imposed upon us by the old hateful might. You were able to fire on the people when the government demanded that of you. And how do we stand now? Now we can no longer endure! What does it mean? Does it mean that free Russia is a nation of rebellious slaves?" (*Uneasiness all over the hall.*)

"Comrades, I can't—I don't know how I can tell the people untruths and conceal from them the truth!

"I came to you because my strength was giving way, because I am not longer aware of my previous courage. I haven't the previous confidence that we are not facing rebellious slaves, but conscious citizens engaged in the creation of a new Russia and going about their work with an enthusiasm worthy of the Russian people.

"They tell us that the front is no longer a necessity; fraternizing is going on there. Do they fraternize on the French front? No, comrades. If fraternize, then let us fraternize on both sides. Have not the forces of our adversary been transported to the Anglo-French front? And has not the Anglo-French offensive been halted already? As far as we are concerned, there is no such thing as a Russian front;

Photograph from Stanley Washburn

AN UNUSUAL SIGHT: AN AMERICAN NEWSPAPER CORRESPONDENT ADDRESSING RUSSIAN TROOPS AT THE INVITATION OF THEIR COMMANDER

there is one front, and that is an Allied front.

"We are marching toward peace, and I should not be a member of the Provisional Government were it to disregard the will of the people as far as ending the war goes; but there are roads wide open and there are narrow, dark alleys, a stroll through which might cause one to lose both his life and honor.

"We want to hasten the end of this fratricidal war; but to this end we must march across the open, straight road.

"We are not an assembly of tired people; we are a nation. There are paths. They are long and complex. We are in need of an enormous amount of perseverance and calm. If we propose new war aims, then it behooves us to conduct ourselves so as to command the respect of both friend and foe. No one respects a weakling.

"I regret that I did not die two months ago. I would have died then happy with the dream that a new life has lit up in Russia; hopeful of a time when we could respect each other without resorting to the knout; hopeful that we could rule our Empire not as it was ruled by our previous despots.

"This is all, comrades, that I care to say. It is, of course, possible that I am mistaken. The diagnosis that I have made may turn out to be incorrect, but I think I am not so much in error as would appear to others. My diagnosis is: If we do not immediately realize the tragedy and hopelessness of the situation: if we do not concede that the immediate responsibility rests on all; if our political organism will not work as smoothly as a well-oiled mechanism, then all that we dreamed of, all to which we are striving, will be cast several years back and possibly drowned in blood. I want to believe that we will find the solution for our problems, and that we will march forward along the open and bright road of democracy.

"The moment has come when every one must search the depths of his conscience in order to realize whither he himself is going and whither he is leading those who, through the fault of the

Photograph from Boston Photo News Company

SOY-BEANS ON THE DOCKS AT DALNY, DESTINED FOR RUSSIAN ARMIES ON THE EUROPEAN BATTLE FRONT

The soy-bean takes the place of meat in the diet of the Japanese, and its nutritive properties are gradually being recognized by the peoples of occidental nations. It has been grown for centuries in China and Japan, and has recently been introduced into America and Europe as an important food and forage plant.

Photograph from H. S. Cresswell

A RUSSIAN "ISBA" IN A VILLAGE NEAR MOSCOW

Far from a railway, these "isbas," or huts, are thatched, while the modern "isbas,' near a railway, are tin-roofed and usually flat-roofed, as a protection against sparks from the engines.

old government, which held the people in darkness, regard every printed word as law. It is not difficult to play with this element, but the game is apt to be brought too far.

"I came here because I believed in my right to tell the truth as I understand it. People who even under the old régime went about their work openly and without fear of death, those people, I say, will not be terrorized. The fate of our country is in our hands and the country is in great danger. We have sipped of the cup of liberty and we are somewhat intoxicated. But we are not in need of intoxication; we are in need of the greatest possible sobriety and discipline. We must enter history so that they may write on our graves: 'They died, but they were never slaves.' "

FIRST ORDERS BY THE NEW MINISTER OF WAR

As a member of the Coalition Cabinet, Kerensky took the post of Minister of War and the Navy. One of the main problems facing the new government was the consolidation of the war strength of the Russian army.

It was desirable that the big task of reorganizing the Russian troops be assumed by Kerensky, who was most popular with the Russian soldiers.

His first order to the Russian army and navy was as follows:

"Having assumed the military powers of the country, I declare:

"First. The country is in danger, and a duty devolves upon every one to extricate her from it, regardless of difficulties. I will therefore refuse to accept resignations prompted by a desire to avoid responsibilities in this grave hour.

"Second. Those who have voluntarily left their military and fleet units (deserters) must return at the appointed time (the 28th of May).

"Third. Those guilty of violation of this order will be punished under the full severity of the law.

Photograph by Stanley Washburn

RUSSIANS IN CAREFULLY CONSTRUCTED TRENCHES ON THE GALICIAN FRONT

A few hours after this picture was taken the enemy launched a successful drive against this position and only six of the defenders escaped uninjured, while the trench itself was reduced to debris in the course of a two-hour bombardment preparatory to the enemy's advance.

"To read this order to all companies, squads, batteries, and crews on the battleships.

"A. Kerensky,
"Minister of War and Navy."

ORDER OF MAY 25

"Warriors, officers, soldiers and sailors! In this great and sad hour in the life of our country, I am commanded by the will of the people to take my place at the head of the Russian armed forces. Infinitely heavy is my new burden; but as an old soldier of the revolution, submitting to the severe discipline of duty, I have assumed before the people and the revolution the responsibility of the army and fleet.

"All of you warriors of free Russia, from soldier to general, are fulfilling a glorious debt, the debt of defending revolutionary Russia. By defending Russia you are at the same time battling for the triumph of the great ideals of revolution—for liberty, equality, and fraternity.

"Not a drop of our blood will be spilled in the name of untruth.

"You will march forward where your leaders and the government will direct you, not for the purpose of conquest and violence, but in order to save free Russia.

"It is impossible to drive away the enemy while standing in one place.

"On the tips of your bayonets you will bear peace, right, justice, and fair play. In straight ranks, strengthened by discipline of duty and undying love to the revolution and country, we will go forward, free sons of Russia.

"Without discipline there is no unity of action; without discipline there can be no salvation. The fate of our liberty depends on whether the army and fleet will fulfill their duty to their country up to the very last. By vanquishing Tsarism the army has performed a great deal, having shown how one must love and

Photograph by Elisabeth Randolph Shirley

A CHURCH AT TIFLIS, CAUCASUS

battle for liberty. But I believe that the army will perform still greater deeds; they will show how to understand liberty, cherish her, and die for her.

"Let the freest army and fleet in the world prove that in liberty there is strength and not weakness; let them forge a new and iron discipline of duty, and let them raise the battle strength of the land; let them add to the will of the people that grandeur of might which will hasten the hour of the realization of the people's hopes.

"Forward to liberty, land, and freedom!

"He who will look about, pause, and go back will lose all.

"Do not forget, you warriors of the revolution, should you fail in your efforts to defend the honor and greatness of your country, your names will be condemned.

"Difficult is the task before you, but you will fulfill it conscious of the pride that you are carrying out the will of the revolution. Your names, your pains, will be sanctified by free Russia. Your children will remember with pride and reverence the army of the revolution. By the will of the people you must clear your country of devastators and ravagers. I call upon you to perform this deed. Is it possible that you, too, will not heed me? Comrades, with you lies the mind and the heart of revolutionary Russia. Let the thought of this inspire your hearts with new decision.

"Brothers, I greet you in the name of the Russian revolution; I bow before you in the name of the great Russian people!

"To read the order to all companies, squads, batteries, and to all the crews on all men-of-war.

"A. KERENSKY,

"Minister of War and Navy."

Photograph from Stanley Washburn

RUSSIAN MOUNTED GUARD DIRECTING THE ENTRANCE OF A CARTLOAD OF BREAD INTO A TOWN ON THE GALICIAN FRONT

In the early part of June, Kerensky undertook a tour along the entire front. He did it in order to speed the work of reorganizing the army and put it into shape for the coming offensive. Everywhere the Minister discussed the war with the soldiers, endeavoring to prove to them the necessity of continuing the struggle with the German militarism and in order to safeguard Russian freedom and the conquest of the revolution. During one of these discussions the following scene took place:

"FREEDOM IS NOT SELF-WILL"

A soldier asked the Minister whether it will not be necessary to attack the Germans in order to consolidate the conquests of freedom. The Minister in reply said that an attack would be a matter to be dealt with by the higher commandant.

Whereupon the soldier said, "If we advance, we shall all perish, and dead people need neither freedom nor land. That is why the government must hasten to make peace."

The soldier was about to go on with his argument when he was sharply interrupted by the Minister.

"Freedom does not mean the self-will of each and every one," said Kerensky severely, "and the power instituted by the revolution is a real power. Russian sons have during decades past perished on the gallows; they have not given their lives in order to have the first coward that comes along place egotistical interest above the interests of the country and people.

"A real revolutionary never thinks of personal advantage or safety.

"His great happiness is to die for the common good.

"He who is afraid of his shadow is not worthy of freedom.

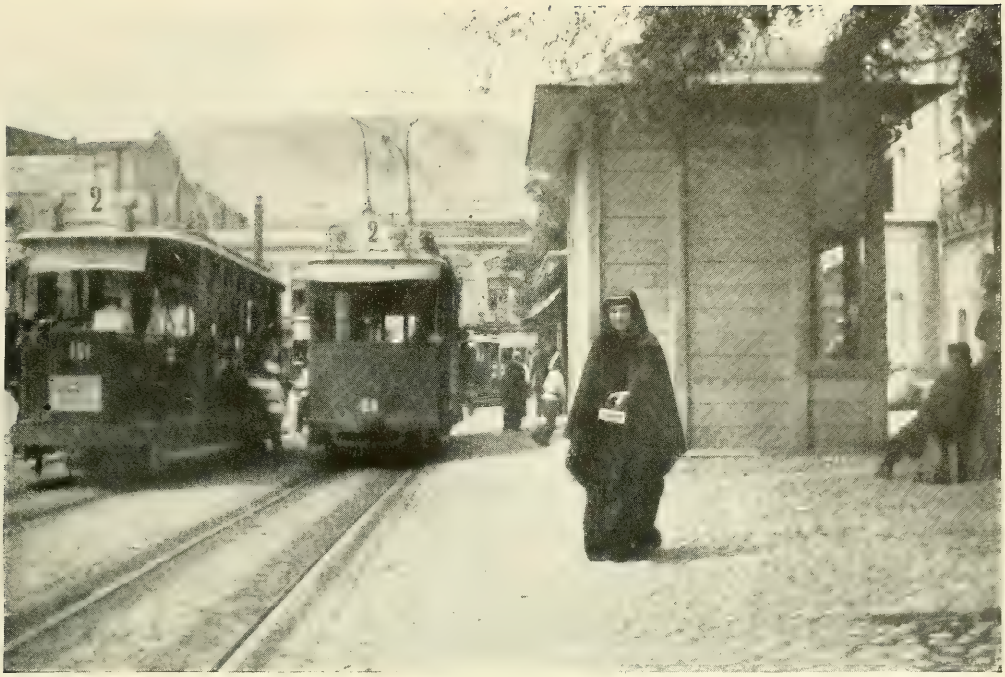
"Mr. Colonel," added Kerensky, addressing the commandant of the regiment, "make it known in tomorrow's order that this soldier is freed from the army. He is at liberty to go home, but every one will know that he is a coward, who refused to defend the Russian land."

"Permit me, Minister," replied the Col-

Photograph by George H. Mewes

RUSSIAN ARTILLERY ON THE ROAD "SOMEWHERE IN THE NEWEST REPUBLIC"

Illimitable spaces to cover, but millions of men to accomplish it, is Russia's part in this war. The front these millions must maintain in the cause of liberty extends from the Baltic to the Black Sea, a line of over 1,500 miles.



Photograph by Elisabeth Randolph Shirley

GEORGIAN WOMAN IN COSTUME: TIFLIS, CAUCASUS

onel, "to have five or six other men of our regiment accompany this soldier to the rear; we have not many of them, but they disgrace the regiment."

"No," said the Minister, "in the meantime one is enough."

"And you comrades," continued Kerensky, addressing the other soldiers, "can it be possible that you share the opinion of this soldier?"

"No," thundered the soldiers in reply, "we do not agree with him. We will uphold you. We will all die if need be."

"I do not doubt it, comrades," said Kerensky.

KERENSKY'S ORDER TO ATTACK

Kerensky's efforts were not in vain. Inspired by his exhortations, having full confidence in leaders like Brussiloff and Korniloff, reorganized along new and democratic lines, the Russian army assumed the offensive against the enemy in Galicia.

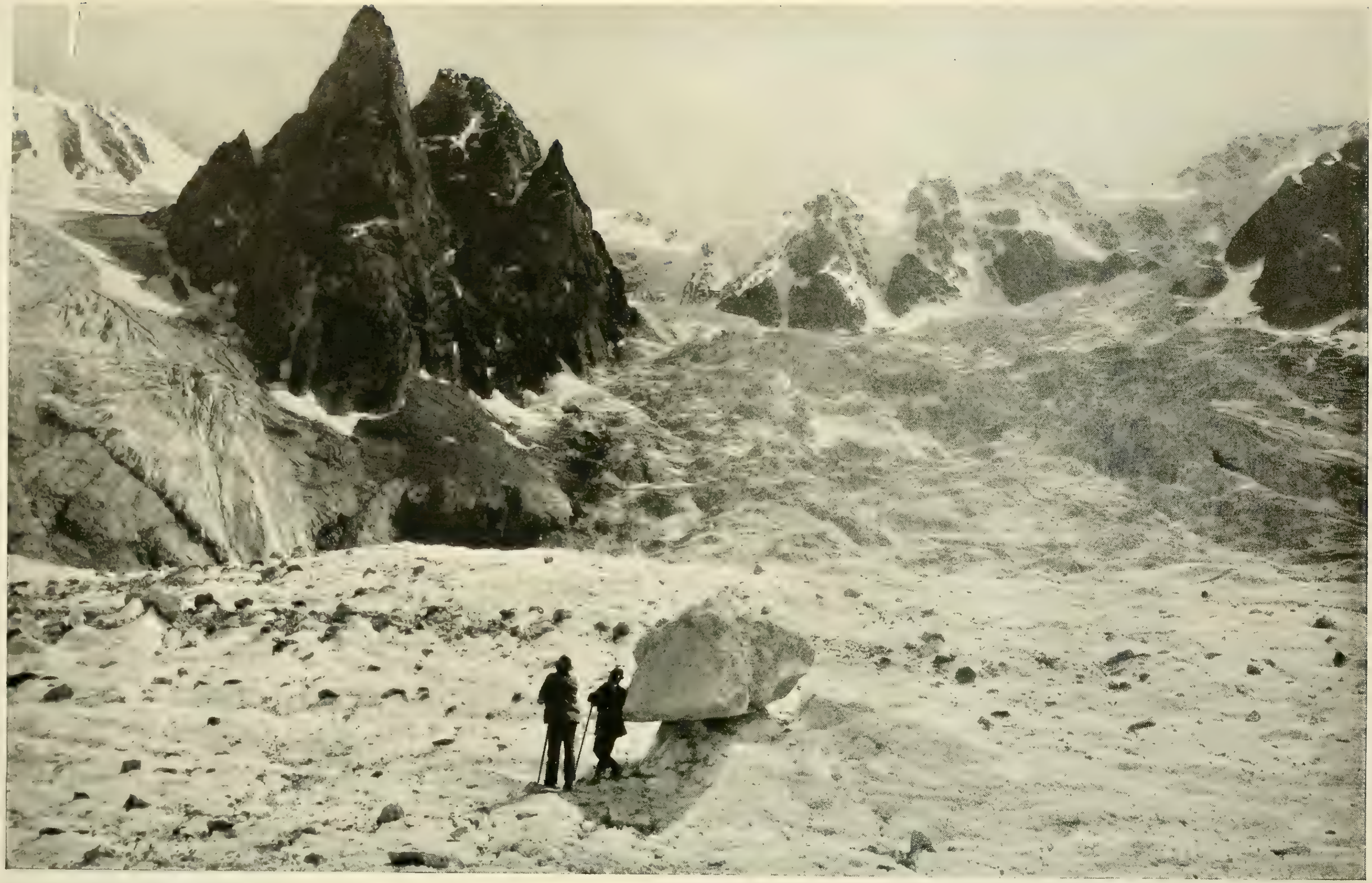
On the eve of the attack Kerensky gave the following order:

"Russia, liberated from the chains of slavery, is firmly resolved to protect, at all cost, the rights of honor and liberty. Having had faith in the fraternal feelings of nations, the Russian democracy has called the warring countries with an ardent appeal to cease the carnage and to conclude an honorable peace, securing tranquillity for all nations; but, in response to this fraternal appeal, the enemy has proposed to us treason.

"The Austro-Germans have offered to Russia a separate peace and tried to blind our vigilance by fraternization, hurling themselves at the same time against our allies with the hope of crushing us after their defeat. Being now convinced that Russia will not allow herself to be tricked, the enemy is threatening us and concentrating troops on our front.

"Warriors, our motherland is in danger. Freedom and revolution are in peril. The time has come when our army must accomplish its duty. Your commanding general, beloved through victory, proclaims that each day lost adds new strength to our enemy, and that only an immediate decisive blow can disrupt the plans of the foe.

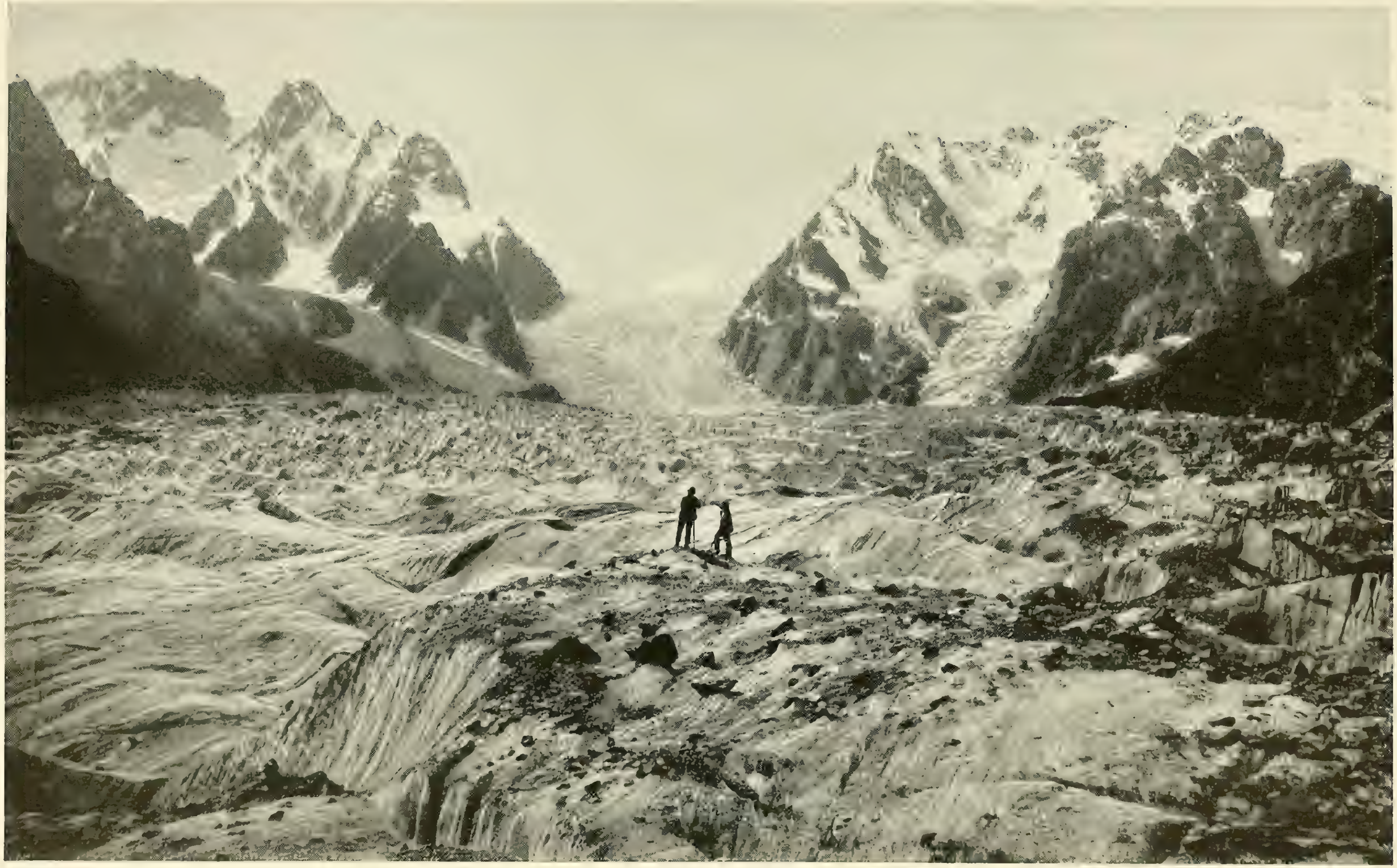
"Therefore, being fully conscious of the great responsibility of the country, in the name of the free Russian people and its Provisional Government, I call upon the armies, strengthened with vigor by



Photograph by Vittorio Sella

LONGUTA GLACIER AND MOUNTAINS TO THE SOUTHWEST: CENTRAL CAUCASUS, RUSSIA

One of the more than nine hundred glaciers in the central section of the Caucasus Mountains, covering a total area of nearly 700 square miles



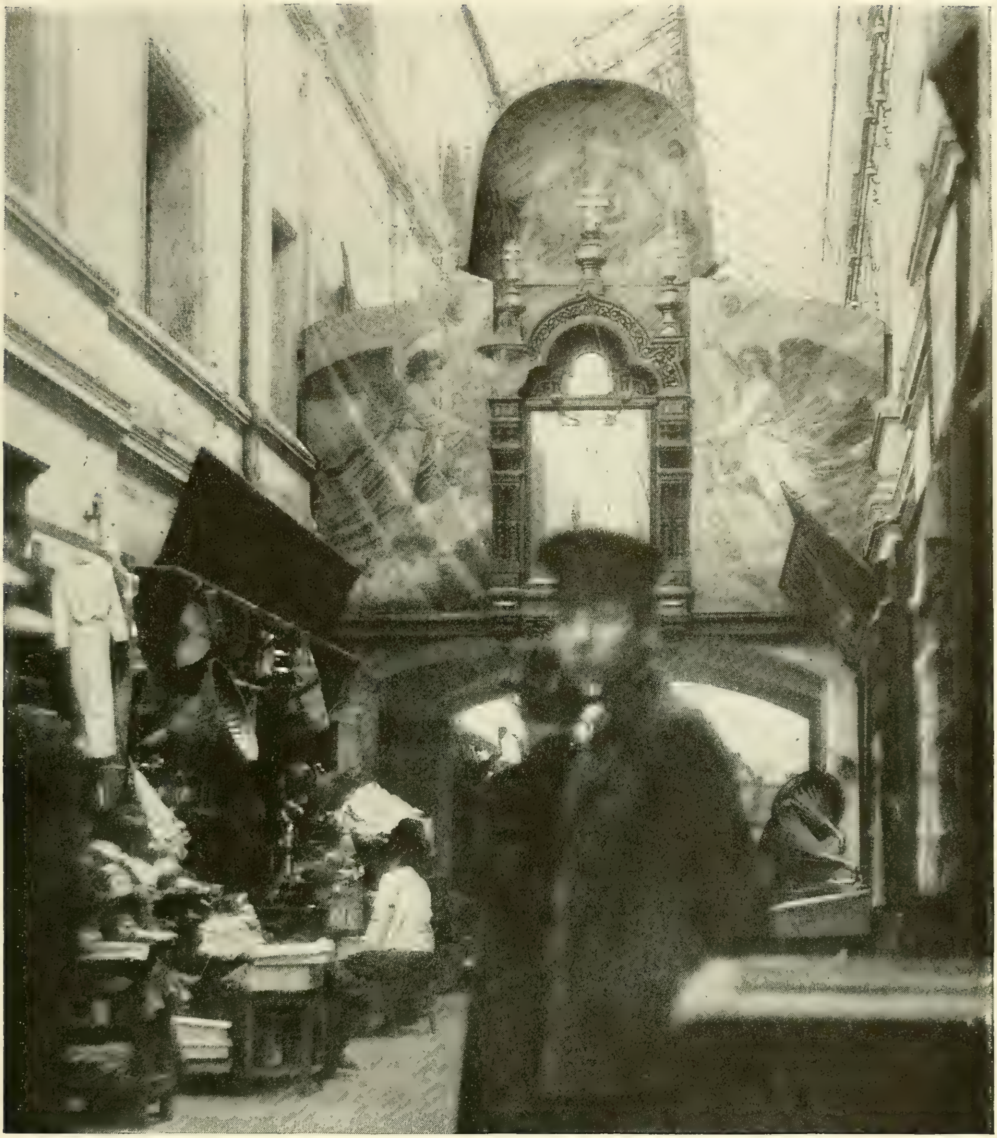
Photograph by Vittorio Sella

THE ICE-FALL OF KARAGOUR GLACIER, CENTRAL CAUCASUS, RUSSIA: THE GLACIER IS 9½ MILES LONG AND COVERS AN AREA OF 14 SQUARE MILES

Photograph by George H. Mewes

A ROLL-CALL FOR HEROES

These few men, answering to the roll-call by their commanding officer after a battle, were all that remained of a company of more than two hundred. The others had answered the final roll-call in the cause of liberty.



Photograph by Gilbert H. Grosvenor

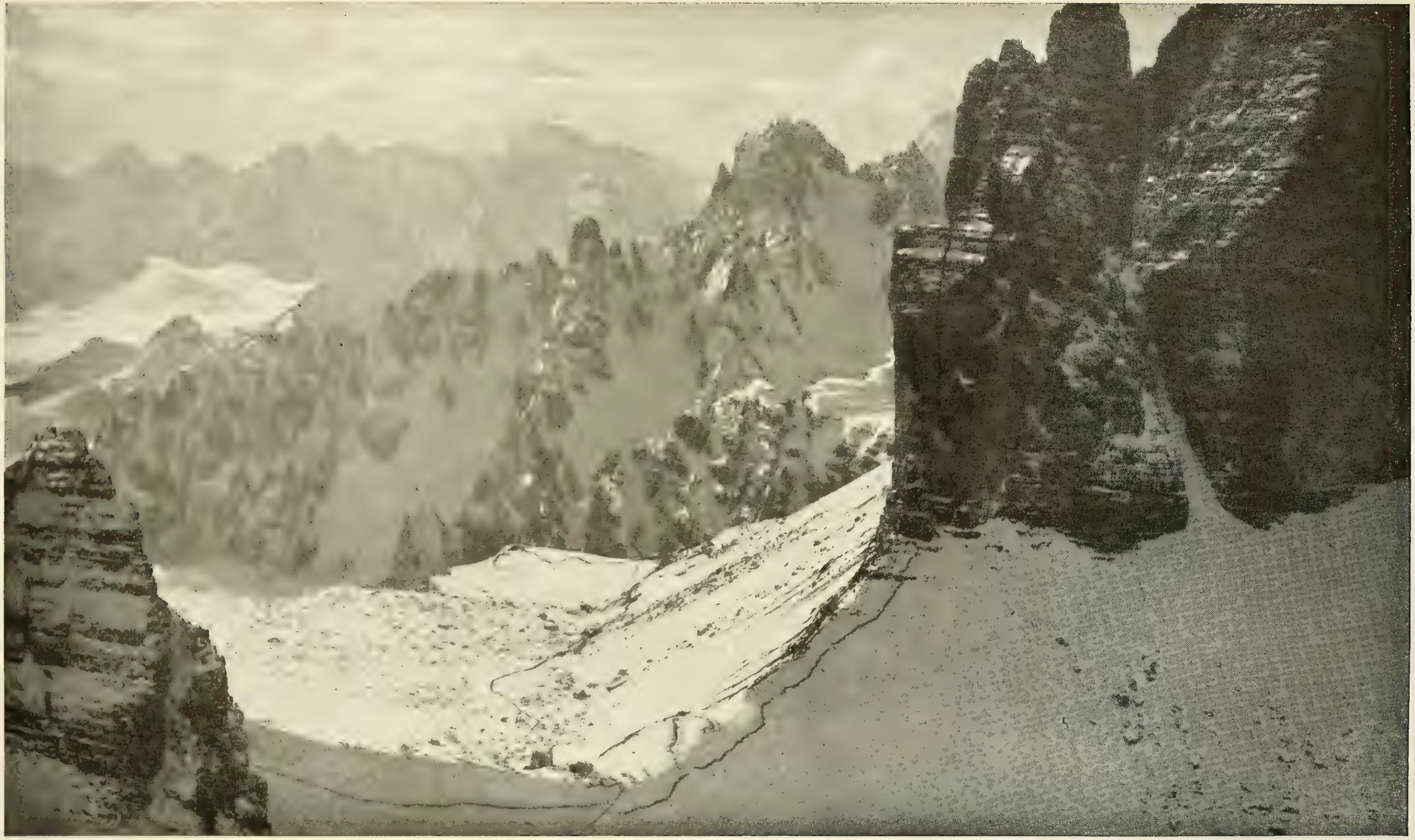
SHRINE IN A BAZAAR IN PETROGRAD

The average Russian carries his religion with him into the field, into the trenches, and into the marts of trade. His places of worship are not merely the great cathedrals which have been reared with lavish hands by the old régime. At the outbreak of the revolution it was feared by many that, as the head of the Orthodox Church, the hold of the Tsar upon the masses would counteract the people's passion for liberty, but conscience and politics have been successfully separated.

the revolutionary genius, to start the offensive. The enemy must wait before celebrating victory.

"All nations must know that it was not through weakness that we talked peace. Let them know that liberty augments our forces. Officers and soldiers, you must realize that all Russia is blessing your acts on the field of honor. In the name of liberty, future prosperity, and in the name of a lasting and honorable peace, I command you, 'Forward!'

"A. KERENSKY,
"Minister of War and Navy."



Photograph by courtesy of the Italian Military Mission

FIRST LINE OF ITALIAN TRENCHES IN THE CADORE DISTRICT, AS SEEN FROM ABOVE

The dark line across the snow is not the trench itself, but the barbed-wire entanglements stretched in front. In summer the wire, which is fastened to posts cemented into the rock, serves its purpose; but in winter, when the deep snow covers it, the enemy could readily advance over the top. To prevent this, little wooden saw-horses are constructed in the trenches, the wire attached, and the portable entanglements pushed out on the hard snow surface.

LETTERS FROM THE ITALIAN FRONT

By Marchesa Louise de Rosales to Ethel Mather Bagg

DEAR L——:

Did I tell you some time ago of two Sicilian peasants who had never done anything but work the earth before the war? Each has lost his right arm, and has since learned to wood-carve so well that both have been employed by a great firm which manufactures fine furniture and frames, and they earn seven or eight francs a day. These two men wanted to take me to the front, because they feel I have so many precious things to distribute, and they are enchanted with the comfort bags.

How can I thank you for your generous gift of the anesthetic *novo caiene?* It is thoroughly practical in those tiny boxes, each one of which contains sufficient for so many operations. I am taking it up to the front personally, and I have put aside some rubber gloves to take up also.

Your rubber sheeting goes off this week, all cut up into 90-centimeter lengths, with four rings in the corners, of metal. Thirty of the sheets went up to the Trentino hospitals, in which the Contessa is interested—a front where there has been so much fighting lately. Some I sent to Contessa I., a splendid woman, one of the most active in Italy, for her hospitals in Bologna and near Gorizia. Others were sent to a new hospital, where C. has friends among the nurses and doctors and where there are 1,000 beds of half-ill and half-wounded men.

You cannot, I think, realize what a luxury all rubber goods are here in Italy and the joy they give. Mrs. M. is sending me cases that are doubly precious, for there are things on the list like catgut or crinoline that simply can't be had for love or money.

I am now erecting two barracks for a restaurant, where the officers can eat at a fixed price and cheaper. The barracks and the tables are going to be constructed with my savings, and the walls are being decorated with the colored pictures of the Domenica del Corriere. I am also instituting a bath for the soldiers. All the plans are ready. You will see how nicely it is coming out.

I hoped in your last letter to receive the announcement that you had sent me some gauze as protection against the flies. It is very hot here, and the hospitals are full of wounded. There are no ventilators, and these poor boys suffer from the heat, and especially from the flies. You will understand they cannot always manipulate their hands, either because they are wounded or because of being tied in abdominal bandages; therefore they have no way of "shooing" away these trying pests. The netting would protect the soldiers, and so they could be comfortable even in the daytime.

In these days of feverish and exacting work you will read that we are going forward.

Recently I organized a ceremony in the graveyard—discourses and a funeral mass. The school children strewed marguerites on the tombs of the fallen heroes.

In my recreation hut I have from 300 to 400 soldiers every evening. They are happy. I give them a cinematograph show; then they play *tombola, oca,* dominoes, etc. I am arranging the marionette theater and hope to have it ready soon.

I cannot tell you how keen was my enthusiasm when I received your cases and your dear letters. I had everything immediately put in the little rustic room ahead of mine, and we will distribute the material where the greatest need is. Everything is precious here. We are full of work, and your tamarinds with this heat and your iron frames to keep the bed covers from touching the wounded men are very practical. Work is certainly not lacking, and I assure you that I have passed through a month which forever will be impressed on my life.

We are much exposed to shells, and sometimes they wound the men at the

Photograph by courtesy of the Italian Military Mission

SEA OF CLOUDS FROM MONTE CRISTALLO: THE CADORE DISTRICT, DOLOMITE ALPS

This view, taken from above the clouds on Monte Cristallo, which is over 10,000 feet high, shows the peaks of two other famous mountains known to Alpinists all over the world—Monte Pelmo and Monte Civetta, both over 10,000 feet.

very door. Lately two hand grenades fell 30 meters away from the hospital; but we are all calm and think that God will protect us in this mission of love. Our splendid soldiers give us such a great example of courage and sacrifice, patience and faith, that one near them feels unworthy.

Our hospital is the most advanced in this zone, and therefore we receive the most gravely wounded. Naturally we cannot do everything that we want to; but I think it would be worse if we were not here, and with the moral part, coupled with the help at the bedside, we can comfort so many stricken bodies, so many poor lacerated hearts.

I have not written so frequently of late because I am dead tired when I at last get to my room. I fall asleep quickly, but we are often awakened at night by gas attacks and must go down to safety with our gas masks on. So one sleeps when one can. My soul has been obliged to go through a process of adaptation to the surroundings, to the visions, to the continual surprises; but little by little one acquires the courage to face it all.

RECEIVES ONLY THE GRAVEST CASES

Since arriving here I have never had time to write any letters except to B. and to Mother, because the work and suffering we face are so overwhelming and demand every waking moment.

I cannot even begin to tell you what I suffer every day, for my poor wounded are all the gravest cases. It seems this is the most advanced hospital where there are women nurses working, so you can imagine the amount we found to be done and which, little by little, we are accomplishing, according to the means we have at our disposal. And then every day we have visits from enemy shells, which prove indeed that we are in the War Zone.

But who thinks of danger when working for stricken brothers?

I write in the hall of the hospital; it is the first day I have had a moment's respite, for here it is a continual coming and going of wounded men, who arrive either to die after a very short time, or after a few days to be transported to hospitals farther from the front. One needs a

Photograph from Prof. Giorgio Abetti

ARTILLERY OBSERVERS ON MONTE CRISTALLO

These men are at a height of about 10,000 feet and are observing activities in a similar Austrian position only 600 yards away in a straight line, but on the other side of a deep declivity, which forms the bed of a glacier, making a difficult path even for the Alpini.

great moral courage, which I am able to give, little by little, with prayer and faith in all that is good.

"THE ENEMY IS BEING DRIVEN BACK"

It is quite impossible for me to write to you coherently tonight. A long letter I may not send, and if I began to describe I should write for hours. We have been here now for 48 hours. The Isonzo is three-quarters of an hour's walk across the meadows, and on the hills, just about 10 miles away, the battle has been raging since our arrival. The big guns roar and thunder day and night; but we are already so accustomed to the noise that we often forget the sound and talk quite lightly of different things. They are pounding as I write, as though they would break off bits of the mountain and crumble parts of it to pieces.

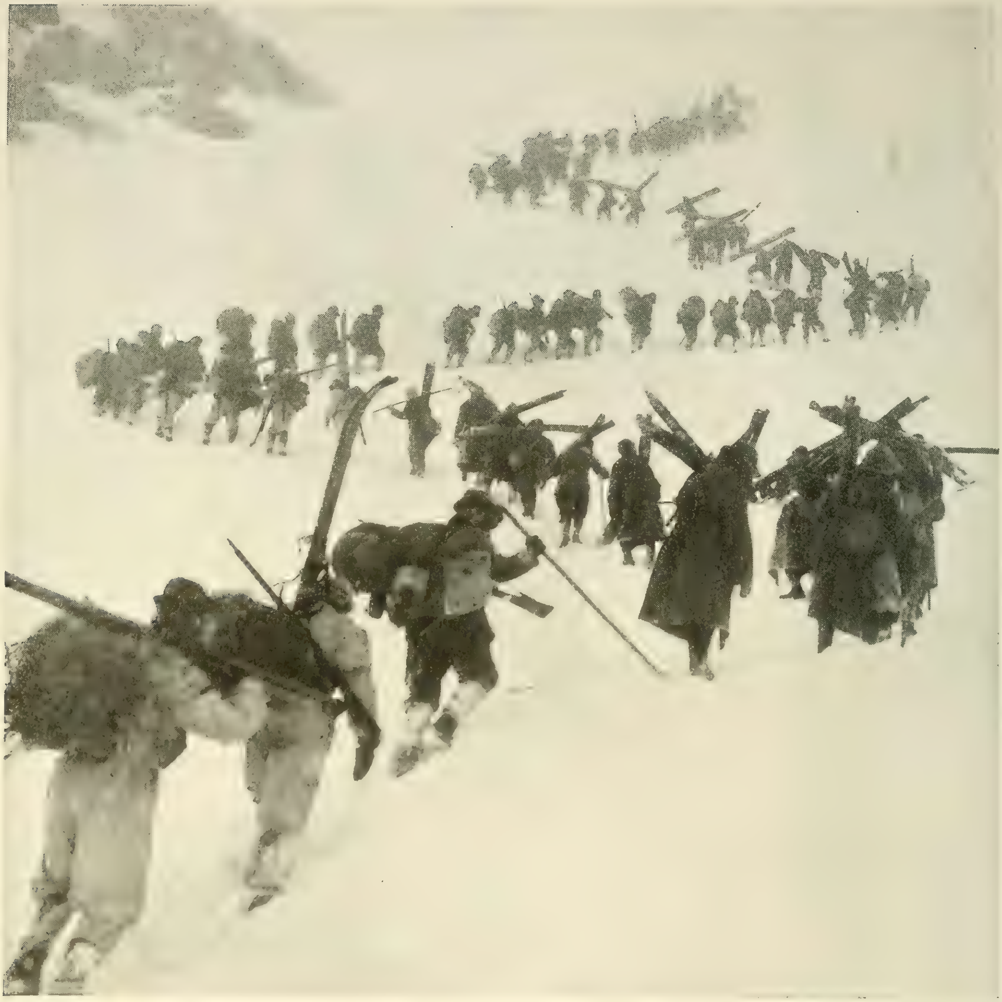
Under my window hundreds of camions pass day and night—one long procession—carrying up fresh troops and ammunition, carrying down the wounded or those who have stood the strain of the fighting so long that they are being brought away to rest a little. At night the sky is fully illuminated by the flashes of explosives.

I was in the cemetery this afternoon. They have knocked down part of the wall to enlarge it, and the soldiers were busy digging new graves, so as to have them ready. There was military music in one of the camps near by and it was really comforting to hear it.

Strange, we have a feeling of perfect security and the sensation of believing that the enemy is being beaten back and back and will never cross the Isonzo again.

This little town was Austrian a short time ago. Except for a very few simple peasant folk and a few others in little shops, I am the only woman in the town, with its thousands of soldiers, and every half hour of the day I gain some new, unexpected impression impossible to describe by letter—very difficult even by speech.

I write by the light of one dim candle and leave you now to go to dinner with M. and R. and three officers.



Photograph from Comando Supremo, Italian Army

ITALIAN SOLDIERS PROVIDED WITH SKIS MARCHING FORWARD AND UP

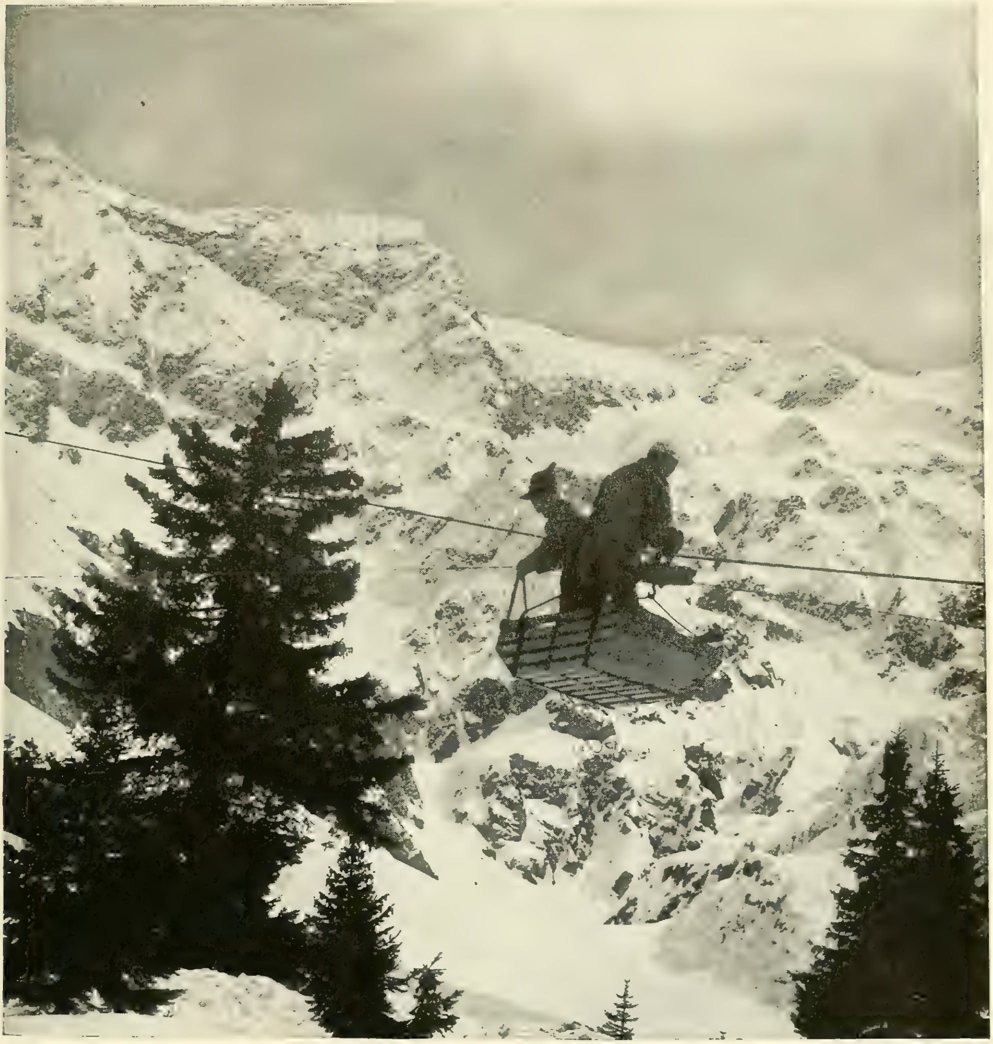
The difficulty of proceeding over the snow-covered mountain trails is shown by the step of the men in the rear. This photograph was taken in April, when the snow had been softened by the warmer rays of the sun and the path made almost impassable by the slush.

BEHIND THE LINES DURING AN ATTACK

My life here seems a dream, and will always seem a dream when I look back upon it. I have been motoring today over the country recently devastated by shells, visiting some recreation huts established here by an English woman. Poor, miserable places they are; but all there is just at present in this district, and consequently much appreciated.

The cold north wind, so dreaded in this part of the world, has been blowing cruelly across this desert country all day. The artillery is firing thunderously and the Austrian searchlights lit up the sky last night. In this little town there has been comparative quiet for the last few days, but a strange, busy movement is beginning again today. Camions and mules pass and pass, and I am told we are to attack again. We arrived in the midst of one attack and it was indeed a wonderful experience. The traffic on the streets, the sound of the big guns, the prisoners being brought in, and then, after it was all over, the troops returning to rest back of the line, told eloquently of the happenings in the trenches.

M. and I and four officers spent a



Photograph from Comando Supremo, Italian Army

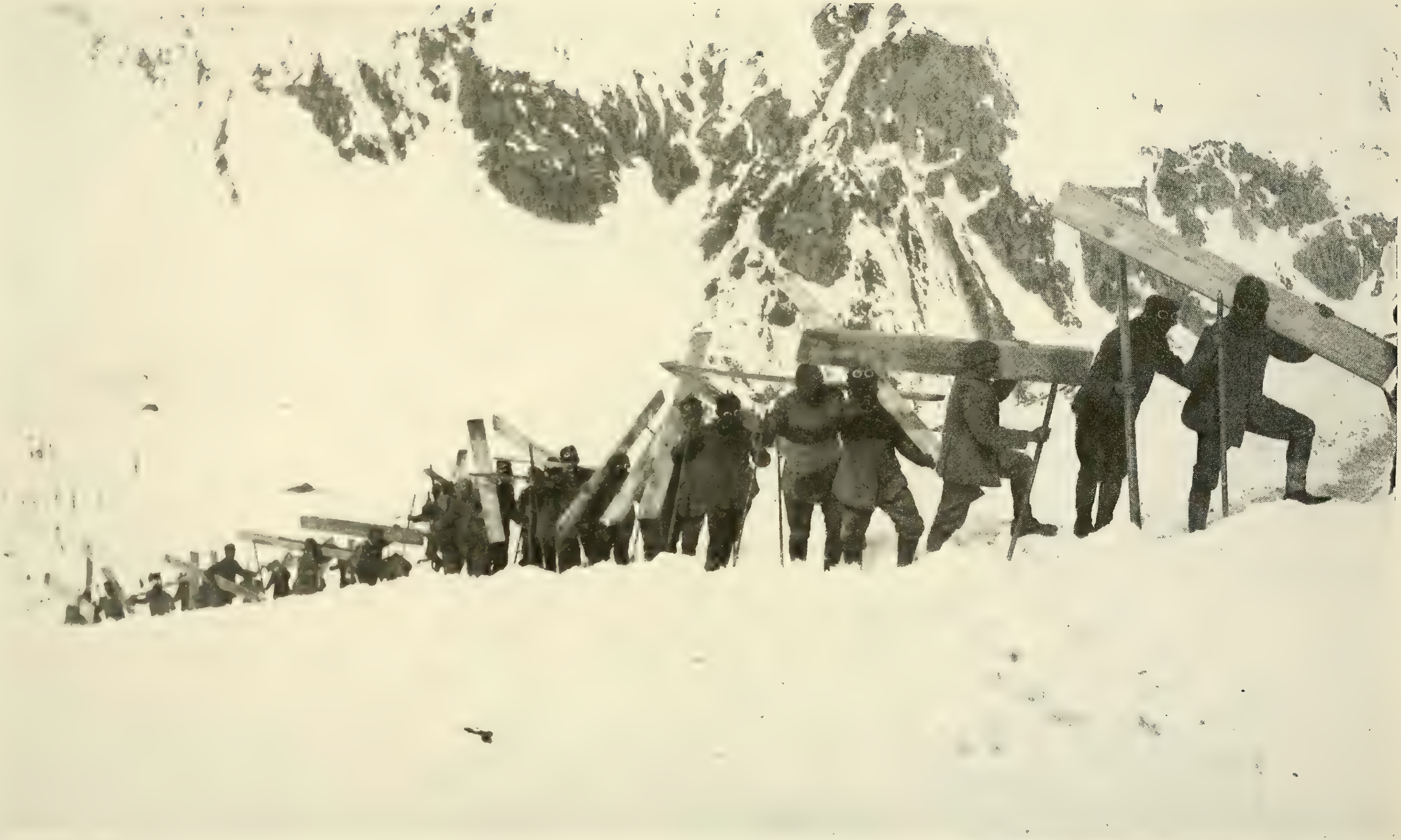
VIA THE TELIFERICA FROM ONE MOUNTAIN PEAK TO ANOTHER

Steel cables strung from height to height are used to transport men, guns, and provisions on the Italian front in the Dolomites. Owing to the difficulty of constructing roads and keeping them free from avalanches, this constitutes the only means of communication in the high mountain regions during the long winter season and often also during the summer months. Expert Italian engineers called to the colors from their work in the South African mining districts brought the idea of the teliferica with them into the Alps.

strange evening yesterday in the house of a priest here, whose parish was Austrian a few months ago, before the Italian occupation. Upon learning that he was an excellent musician, we persuaded him to play for us selections from Grieg, Wagner, and even La Boheme. Almost always when there was a pause in the music we heard the cannon, but paid no attention unless they sounded very near, so near that the windows rattled, in which case every one listened a moment and looked strangely at each other, but seldom said anything.

A VISIT TO THE HOSPITAL WHERE MUTILATED FACES ARE REMADE

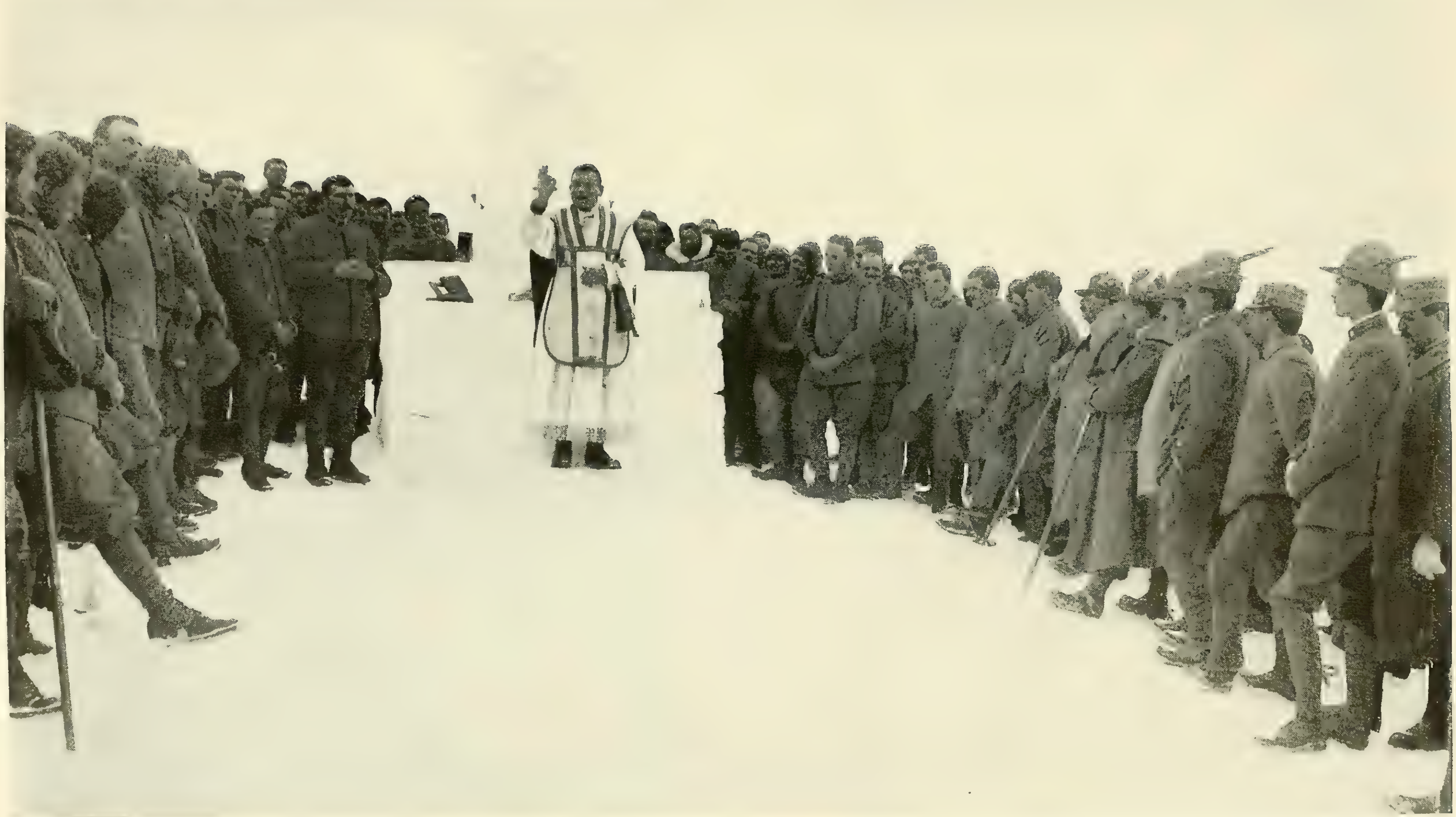
I received your letter when in the midst of tragedy and horrors beyond all description. We are now having a most interesting time in this picturesque town of Bologna. We thought to end our trip



Photograph from Comando Supremo, Italian Army

ITALIAN SOLDIERS CARRYING BUILDING MATERIAL UP THE HEIGHTS

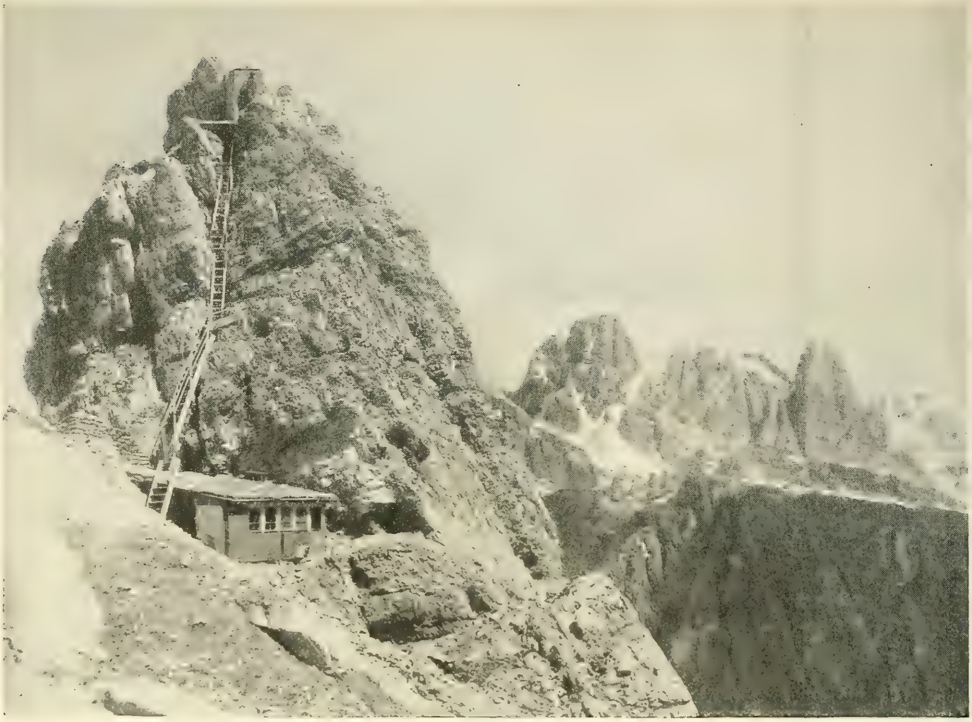
Far above the timber-line barracks must be constructed for the comfort of the troops and the lumber must be carried up the last stretches by the men themselves



Photograph from Comando Supremo, Italian Army

RELIGIOUS SERVICES BEFORE AN ALTAR OF SNOW ON THE EVE OF AN OFFENSIVE

This altar is in the high mountains of the Cadore district and was carved from snow by a peasant boy from a village on the Lake of Como. The priest is celebrating mass in his snowy cathedral for the troops who are soon to go forward in attack.



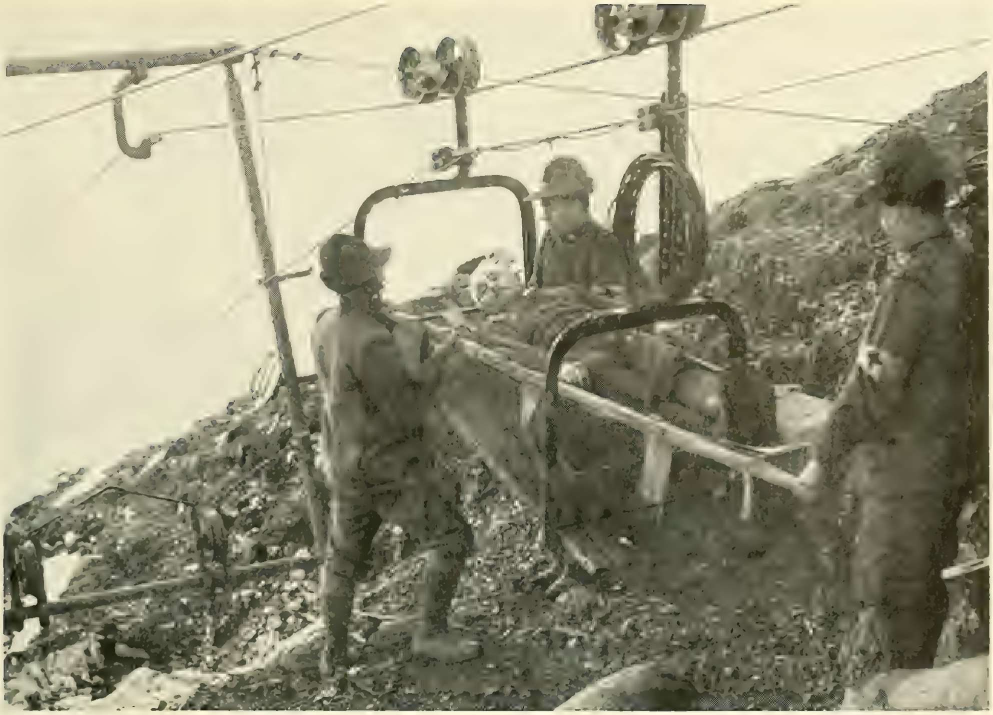
AN ITALIAN ARTILLERY OBSERVATORY IN THE DOLOMITES

A stairway is built almost to the top of the peak and a tunnel drilled through the vertex. Climbing up in safety on their own side, the observers make their way through the tunnel to a point where they can overlook the positions of the enemy.

Photographs by courtesy of the Italian Military Mission

A FIELD ARTILLERYMAN AND HIS PET IN THE DOLOMITES

Artillery positions high up in the mountains are frequently embrasures blasted out of the solid rock, with the front filled in and only a small opening left for the mouth of the gun.



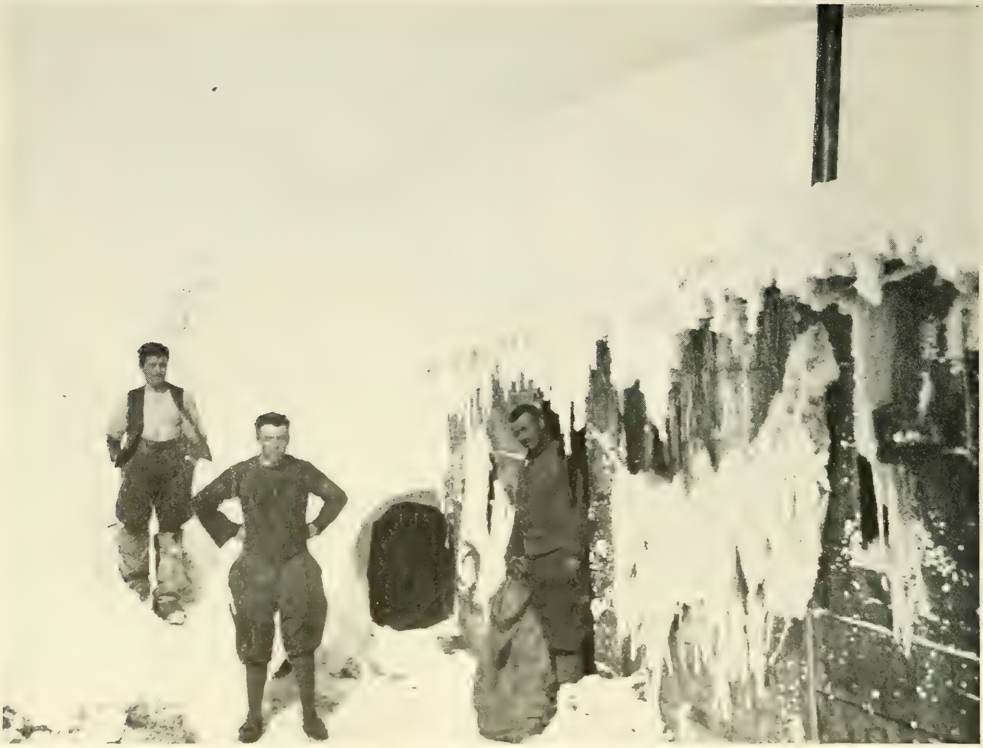
TRANSPORTING THE WOUNDED BY THE TELIFERICA

The teliferica car provides the most comfortable vehicle for the men wounded at the front, and this is the easiest stage of their long journey back to the base hospitals

Photographs from Comando Supremo, Italian Army

FUNERAL OF AN ITALIAN SOLDIER IN THE ALPS

To their snowy graves are carried the bodies of Italy's Alpine heroes who have given their lives for their country. If time and opportunity permit, they are sent back whence they came, but more often they are buried with full military honors in the ice and snow of the glaciers.



Photograph by courtesy of the Italian Military Mission

COMMANDER'S QUARTERS ON CIMO PALOMBINO: DOLOMITE ALPS

This picture of a commanding officer's headquarters hut was taken on a morning following a blizzard in the mountains. At the right, what looks to be simply icicles and snow is really the weekly wash hung out to dry, but caught in the storm and covered with frozen sleet. The opening between the two men in the foreground is the entrance to the tunnel which leads to the artillery observation post on the opposite side of the peak toward the enemy.

in two days, but shall be here for four, seeing hospitals, orphanages, and establishments for the mutilated. We are just off to a soldiers' club, at whose head is a remarkable priest.

A splendid woman, who does wonderful work here, thinking I wanted to see everything, brought me yesterday to the hospital where they make over poor wounded and demolished faces, and all the doctor's pet faces, in the process of healing, were shown me. I was extremely interested; but the sight of one or two was quite sufficient to demonstrate what wonders had been achieved, and I did not want to see more. But there was no way out of it; I had to stay. In a way it was good for me to learn at first hand what real suffering means.

After seeing the faces in process of restoration, I was taken into the medication room, where men were having their healing limbs treated in agonizing machines to prevent them from becoming permanently stiff. They were wailing and moaning from pain; two of them yelling. Coming out from under the influence of chloroform after his operation, one kept begging and begging, "Oh, let me die. Oh, let me die; I can stand no more." One had a broken spine—a young officer.

PHONOGRAPHS CHIEF DELIGHT OF SOLDIERS

A soldier, with my cases of hospital supplies, instruments, etc., left Rome day before yesterday for a tiny village near Gorizia. Another sack went off yesterday to the high Alps in the Cadore, carried, I think, by the four Garibaldi brothers. M. and I are busy at present trying to bring aid to the Italian prisoners in Austria and helping to start recreation huts all along the Italian front. A few already exist, but hundreds are needed. The Austrians have them all along their lines, six kilometers behind the fighting zone, I am told, which is a proof that they are not a luxury, but an absolute necessity. They exist, as you know, in great numbers along the French and English fronts in France.

The secretary of the Y. M. C. A. in France is here—a delightful young enthusiast—and we are doing all we can to get permission for him to work here. Mr. Davis told me the other day that in one of his huts in France one Sunday morning 10,000 letters were posted. So you can imagine how the paper bills mount up.

Oh, if you could have seen 14,000 soldiers, as I did in the little village where I was stopping at the front, coming down from the terrific fortnight's fighting in the trenches! They were quartered in the village and in tents in the surrounding muddy fields—deep, sticky mud characteristic of the Corso. There was much rain, thunder-storms, and a cruel north wind blowing; yet all the diversion they found awaiting them was the osteria (bar). What they absolutely revel in is phonographs, but these are too expensive to ask for.

The inhabitants of this village were all Austrians until a short time ago, for we were on conquered territory and always spoke of going back to Italy. Sign-posts by the road still exist with Austrian designations upon them.

We arrived in the midst of a great attack, taking place about six kilometers away. The Austrians fired on our little village before our arrival and just after we left, but not during our stay. The cannon roared and thundered day and night, and the sky at night was ablaze with flashes of explosions, enemy searchlights, green signal rockets, etc.

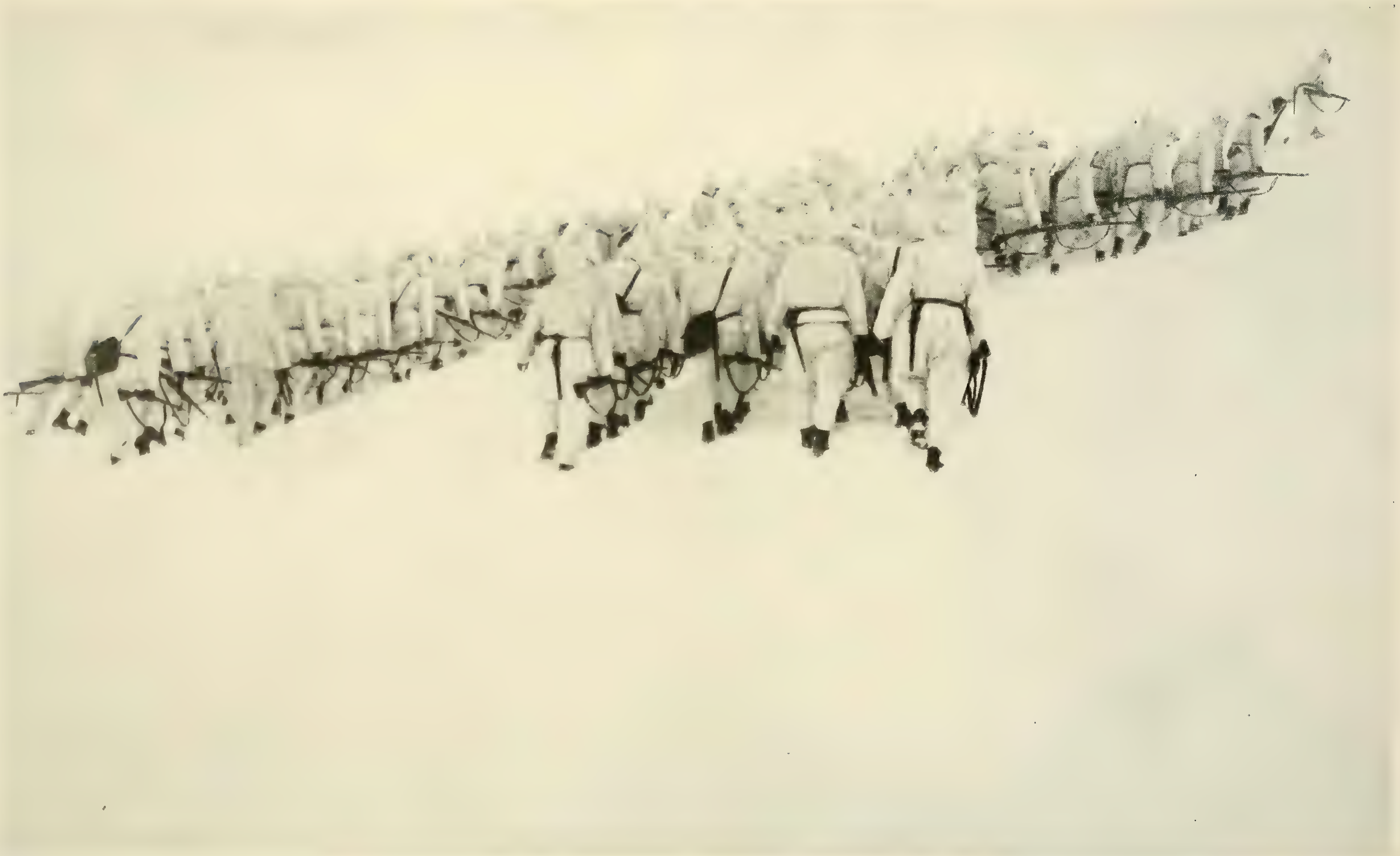
After about three days the fighting ceased and the men came down from the hills to rest. Then it was that my heart ached that there were no recreation huts, warm and bright and cheerful, for them to go to. A few days before we left an even greater attack began. It started at night, during a thunder-storm, and it was quite impossible to say which were resounding peals of thunder and which the firing of the 305's. By the time we reached Rome the papers were full of reports of the amazing advance the Italians had made.

BEAUTIFUL EXPRESSION ON FACES OF THOSE WHO HAVE BRAVED DEATH

Such an extraordinary sensation, being surrounded by thousands of men who for months have faced death day and night! It gives a peculiar and very beautiful expression to many of the faces. The church was crowded, all seats taken and aisles packed, when they came down from the trenches and before they returned. I have never been so moved and impressed and could not bear it more than once.

Many who had just arrived had not had time for a bath and change, so the uniforms were tattered and stained and the fortnight's (they generally remain about a fortnight at a time in the trenches) beard was still upon the young faces. They knelt for half an hour at a time, immovable as images, in front of the different altars, praying to their favorite saints and madonnas in thanksgiving or supplicating for protection. The church was lit only by the candles they had bought, very short or very long, according to the number of "soldi" they could afford to pay; and then, with the organ, they sang a beautiful song composed since the war, "Oh, Santa Madonna prega per noi."

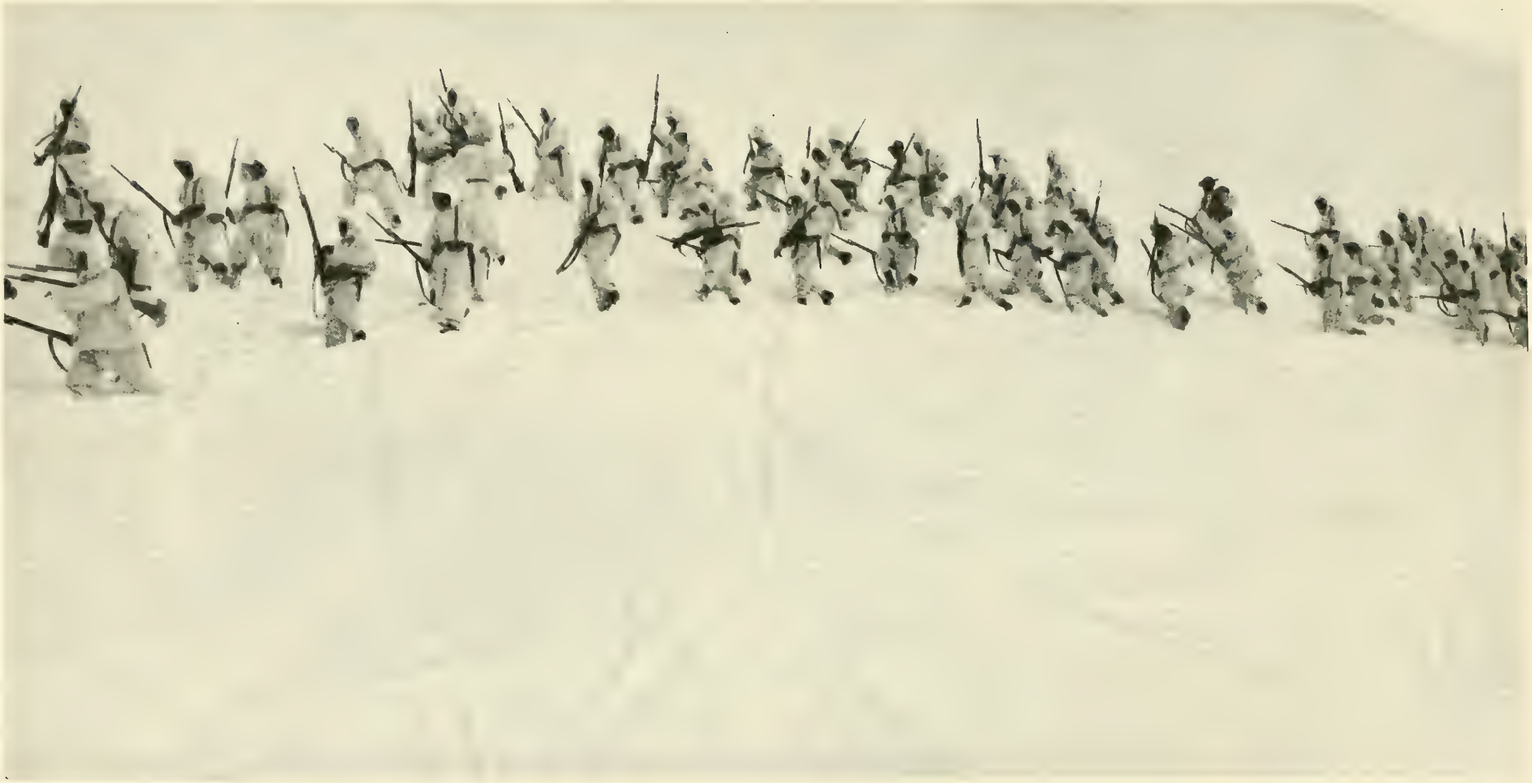
One cloudless, sunny afternoon I shall never forget. In the little cemetery, just outside the village, the sound of the artillery was continuous, but rather far away. Over our heads Italian aëroplanes were flying, and suddenly from the blue came a strange rattle, an Austrian *mitraliatrice,* that was trying to bring them down. Several soldiers were working silently at some tombs of their comrades; one with a portrait bas-relief made by the simple soldier friend. In a corner of the cemetery other soldiers were busy digging new graves to have them ready for the men who were fighting a few kilometers away and would not return alive. Mingled with the sound of the spades was a little song of the soldier outside of



Photograph from Comando Supremo, Italian Army

ITALIAN ALPINE TROOPS CLAD IN WHITE

To reduce their visibility the Italians don white suits over their uniforms when they advance over the glaciers. By this protective coloration a comparatively small party can creep forward over the snow-fields undetected by observers and take strong enemy positions by surprise attacks.



Photograph from Comando Supremo, Italian Army

ADVANCING ACROSS THE GLACIER FOR AN ATTACK ON THE ADAMELLO

This is one of the highest mountains on the Italian front, having an elevation between 12,000 and 13,000 feet. Nature has outdone the ingenuity of man in making it an almost impregnable fortress, yet no obstacle seems too great for the hardy Italian infantrymen to overcome. Before the war Italy's only mountain troops consisted of a comparatively small but famous corps called the Alpini, composed of trained mountaineers; today the nation has a great army of experts, trained and efficient in mountain warfare.

DEVOTED ALLIES OF MANKIND

These dogs carry food and messages between the solitary sentinels and their base camps in the Alps. Often the path is destroyed by avalanches, but the intelligent animals find the best way down by instinct and seldom fail in their mission.

Photographs from Comando Supremo, Italian Army

A RED CROSS UNIT ON THE ITALIAN FRONT

The Italians are very appreciative of the work done by the Red Cross and several of its members have been decorated by the Italian Government for acts of especial bravery

Photograph from Comando Supremo, Italian Army

THE SKIRMISH LINE OF ITALIAN SKIMEN ADVANCING IN ATTACK

These troops, mounted on skis, can descend upon an enemy position like a flock of great white birds, bringing a message of disaster to their foe. In this picture they are creeping forward in skirmish formation, firing as they go.

the cemetery gate, singing as he looked for the mules.

And the never-ending procession I saw every time I looked out of my bedroom window! Day and night the camions went up on one side of the little street taking munitions, bread, etc., while thousands of mules and men tramped by, the mules bearing water and food for the soldiers, and brightly painted Sicilian carts carrying fodder for the mules. On the opposite side of the street came down another procession, made up of empty camions to be loaded again and Red Cross ambulances bringing in the wounded. Through our tiny village 120,000 loaves of bread passed each day.

SOLDIERS BATTLE AMID ARCTIC COLD IN THE HIGH ALPS

I was talking to a young nurse, 21 years old, who came down from a hospital in the high Alps by toboggan last week. At noon, when hanging out her sheets to dry in the sun, they often freeze stiff. The sentinels must sometimes be changed every ten minutes, so as not to die with the cold. Some of the men are fighting on peaks, where supplies can reach them only by the teliferica (you know, the baskets slung to a wire that pulls them up thousands of feet), or by cords and ladders up perpendicular walls of rocks.

This afternoon I attended a party at the Villa Mirafiori, where there are about 83 wholly helpless victims of the war. They had a lottery and some gifts. Kind friends gave me 45 francs, with which I was able to buy a number of gifts for them—knives, pipes, etc. Four of the boys had lost both hands—strong, competent-looking men, so good and patient and serene. It is terrible to be so entirely well otherwise and yet so helpless.

I am giving a marionette show at the villa in a few days. There is no form of entertainment so popular. I gave one for 450 soldiers last week in the big hospital here. The men were almost hysterical with merriment for nearly two hours. I am soon giving a show for a hospital in which Contessa Cadorna is especially interested. The show costs me between 50 and 60 francs each time, but it is money well spent.

HOSPITAL ON MULE-BACK FOLLOWS TROOPS

Since becoming one of the representatives of the Surgical Dressings Committee (Contessa de Robilant is the other representative), I find myself in touch with several hundred hospitals all over Italy, especially up at the front, and you cannot imagine how agonizing it is to be suddenly in this position and with comparatively so little to distribute.

Our work is recognized by the War Office, and we are given all sorts of rights of free transportation to the front, of course. Contessa de Robilant goes up about once a month to the hospitals herself, and has arranged for soldiers to take up our supplies about once a week. Her husband is the general who commands all the troops up in the Dolomites. Two of her daughters, splendid girls, nurse in a hospital which is packed upon mules and follows the army every time it advances. They work high up in the mountains, and are in Rome on leave now, as the snow is so deep in the advanced posts where they are stationed that there is at present no fighting.

The cold is so intense that their sheets freeze at noon when they hang them out to dry in the sun. They have 200 men or so come down daily from the trenches to get baths and changes, and I try to send them woolen clothes, fresh socks, etc.; for when there is an ample supply of these the men leave their soiled ones to be washed and mended and return greatly refreshed. The girls are so pretty and such competent

Photograph by courtesy of the Italian Military Mission

THE WAY TO AN OBSERVATION POST IN THE CADORE DISTRICT

These stairways were constructed for hundreds of feet up the almost impassable heights from the barracks to the artillery observation posts in the uttermost crags of the Dolomites. In the section shown there are more than 300 steps covering an ascent of perhaps a hundred yards almost straight up. The observatory at the top is about 9,000 feet high and 1,600 feet above the nearest barracks.

little nurses, just over 20 years of age! They came down from their hospitals on sleds a few weeks ago, as many of the roads were deep in snow.

Before going to the front they were nursing in a hospital down in the plains. When the soldiers in a ward where one of them was engaged heard she was leaving, they cried like children, hiding their heads under the sheets lest their companions should see them and make sport of their tears.

Through the Contessa de Robilant, I am in touch not only with all the hospitals in the Dolomites, but also with those in Albania and Saloniki and in the Corso. In fact, in the matter of being in close touch with the hospitals our organization is perfect. Our work is sanctioned by the War Office, which permits us to send our things up to the front very quickly and satisfactorily by special soldiers. It is wonderfully satisfactory to have such facilities, but heartrending not to have a great deal more to send.

A great and terrible advance is expected by every one in a month or six weeks and everybody is getting ready for it.

Our dear overgrown waiter, who serves us dinner upstairs, will be enrolled tomorrow. He makes me think of the story of Alice in Wonderland: so tall, just a child, and possessed of such immense hands. He has spent most of his life in Trieste in a café serving coffee. When war broke out he was interned. Then he escaped from the internment camp and got back to Italy, his real home being near Udine. And now he philosophizes as he clears away the things at night:

"Who would ever have thought it, Signora, nearly three years ago? And instead of being finished, as we thought it naturally would be, it seems as though it were just going to begin."

A SENTINEL TO GUARD HENS

I went to a hospital of 1,200 beds today. All cases in Rome go there first and then are distributed according to their ailments. Some stay permanently in the hospital while convalescent, and sometimes batches of wounded Austrian prisoners arrive in the great place. They always interest me. One is not allowed, as a rule, to talk to them; but I have conversed with them several times.

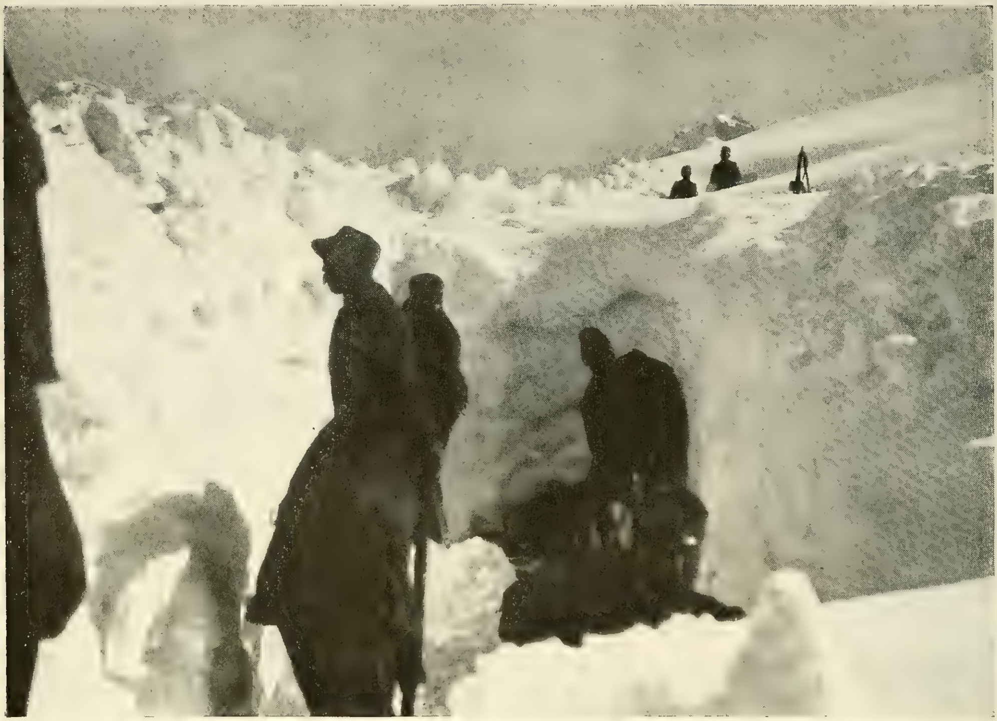
The colonel at the hospital made a rather touching appeal the other morning. He had built a chicken-house in the hope of having as many eggs for the hospital as possible, and wanted 50 hens immediately. M. presented him with 40 day before yesterday, and we went over to receive them and to pay on delivery. An expert among the wounded soldiers, a peasant, was found, and he chose those fowls he was sure would lay immediately.

You would have been amused at the whole scene—the farmer and wife, in costume, on a little cart, under a huge umbrella, arriving in state from the country, the very long discussion on the different points of each chicken, the crowd of soldiers, and the nuns gathered about the group. The chicken-house had just been completed, but the key had not been made; and so, to provide against any of the hens being stolen, a poor soldier had to stand sentinel all night.

I heard a story recently from an Alpine in Rome that you would like. A sentry in the high Alps, over 9,250 feet above sea-level (St. Moritz is 5,500), is on duty three hours and stands under a little roof, the snow falling steadily. Whenever this sentry or the one who replaces him is relieved, he has to be dug out by his companions. A long passage is shoveled out of the snow up to the little cave under the roof.

The Italians have had no idea of, and no means of knowing, the amount of wonderful supplies being distributed in Italy by the clearing-house (I mean the Italians officially); but now they begin to know and are indeed impressed and appreciative. The Contessa has the lists of all that has been distributed since the beginning of the war, and is publishing them abroad, by word of mouth and in the papers.

The gentlemen of the clearing-house were so kind and nice to me this morning. Sita has just gone to Sagrado, a small village, formerly Austrian, on the Isonzo, near Gorizia. The hospital is right within sound and sight of where



SNOW TRENCHES AT THE TOP OF XOMO COLLE, A HIGH PEAK IN THE CADORE DISTRICT

Snow in the mountains is both an advantage and a disadvantage. It makes marching difficult and exposes the armies to the terrors of the avalanche, but it makes trench digging easy and provides a ready breastwork.

Photographs from Comando Supremo, Italian Army

AN ITALIAN SNOW TRENCH IN THE TRENTINO

Photograph from Comando Supremo, Italian Army

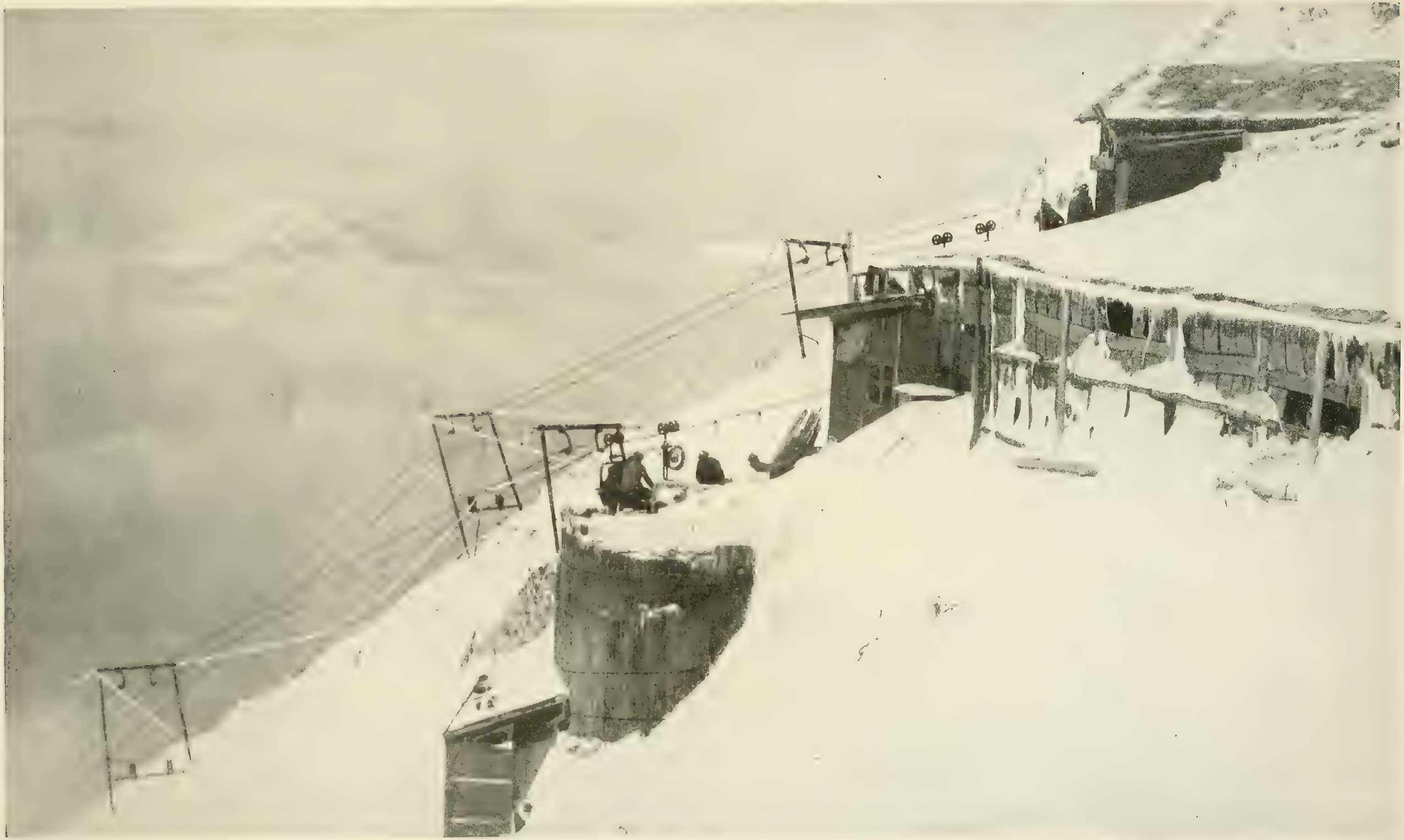
TRANSPORTING A BIG GUN IN THE CADORE DISTRICT

Guns like this can be brought into effective positions only over the best of roads. The Italians are probably the most remarkable mountain-road builders in the world, and the highways they have constructed at the front and back to their bases have excited the admiration of all who have seen them. Their military road building serves as a fine example for America's unpreparedness in the matter of a system of military highways.

the terrible fighting is going on. It is about a quarter of an hour from where we were stopping with Ramiro last autumn. She has all the gravest cases that are brought in from the battle and cannot travel. She appealed for several things urgently, among others "archetti reggi-coperte," iron frames to keep the bed covers from touching the wounded men, and the kind clearing-house people told me I might order 100 immediately.

ITALIAN CANTEEN IN AMERICAN CHURCH ENTERTAINS AMERICAN SAILORS

You read perhaps of a transport ship, English, sunk a while ago in the Mediterranean; 400 lost. The survivors are at Savona being looked after. English hospitals are being opened at the front in Italy, for some English guns are there now assisting in this terrific battle. I think they are going to try to transport men to Saloniki by land as much as possible, so as to avoid the sea. I am going this week to the station to meet the English troops. A canteen—which I shall also see this week—has been opened here in the American Methodist Church and school-rooms. They tell me the rooms are beautiful, and it promises to be the best club of the kind in Europe. The other day it was full of English soldiers



Photograph from Miss E. M. Bagg

A TELIFERICA STATION ON A MOUNTAIN TOP

Before the war the aërial tramway was utilized in various parts of the world for transporting materials across chasms and up mountain sides, but it remained for the Italians to adapt it to their necessity of negotiating the sheer heights in Alpine warfare. A young engineer of Milan is credited with having first suggested its present use, but it seems to have exceeded in usefulness his wildest dreams. Few facts concerning the extent of the system have been given out, but when this war is over a thrilling tale of engineering feats in its construction will remain to be told.

and sailors and some American sailors! You can't think what a sensation that gives me. A woman working there spoke as though they expected a number of Americans soon.

I am sending you some post-cards. The Capitol Museum is closed, but Manolo had it opened one Sunday morning and brought some of his pupils to see the statues. These pupils look quite happy and normal in the photo; as a matter of fact, they are all minus legs and one has lost a hand besides. They are learning to draw and carve, and Manolo means to lead them in practical directions, so that they can use their talents industrially and earn a good living. Some are highly gifted.

Mother and I have been spending the afternoon at the new club for English and American soldiers and sailors, and talking and chatting with some fine Irish and English sailors today.

This is the anniversary of Italy's declaration of war. I will write later and tell you of the procession we are going to see in a moment. It is nice that this great national fête day should be practically on my birthday, the 24th; but I think the first shot was fired on the 25th.

Seventy-five shipwrecked Englishmen, many officers among them, are expected any day now in Rome. Mother and I are going to help receive them. We do not know whether they have *just* been shipwrecked or whether some days ago.

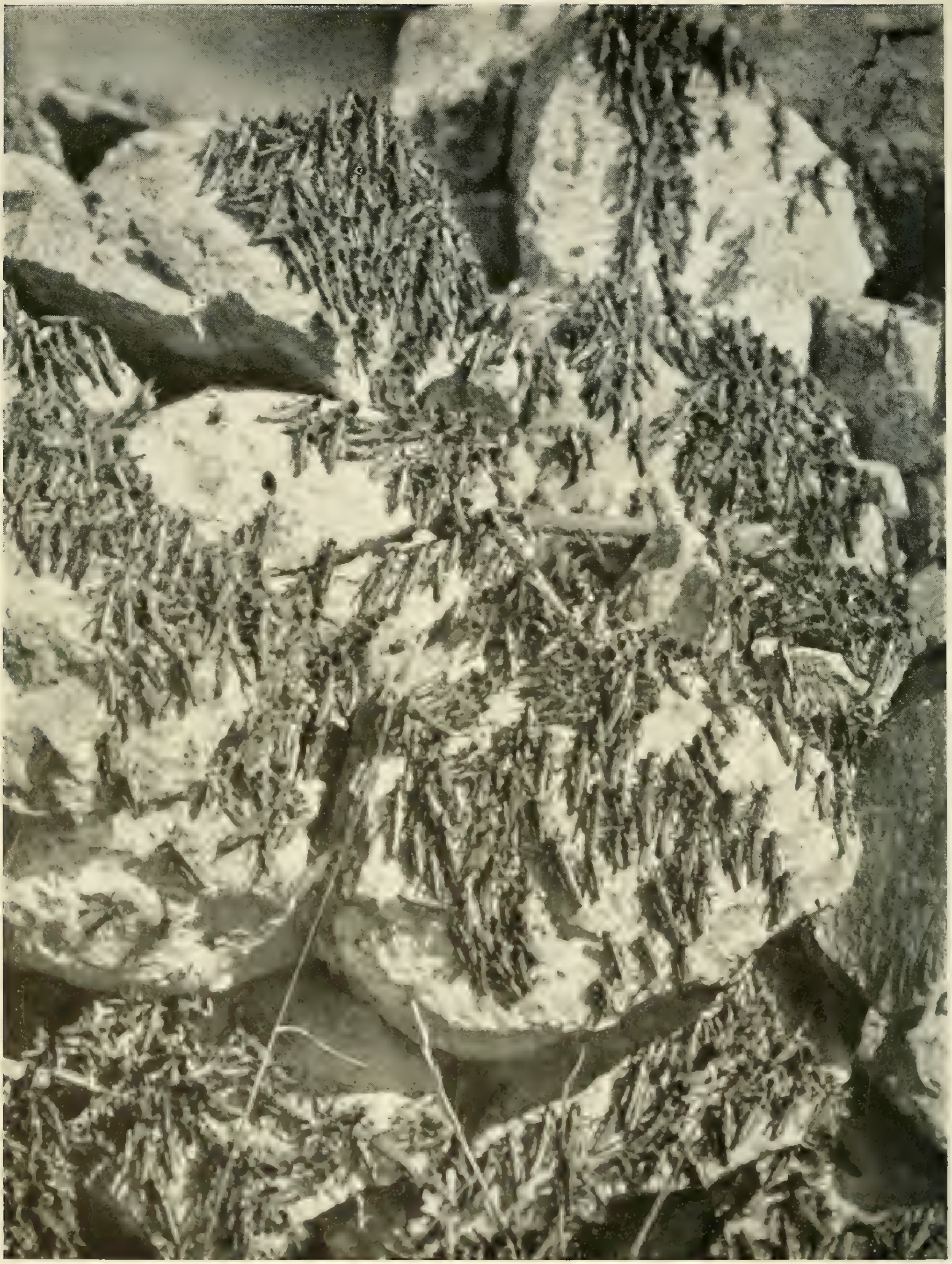
NURSES UNDER FIRE

I shall be relieved when Dians arrives safely in Italy. The inclosed letter may interest you; it came tonight from Sita. She has nursed a good deal in Milan since the war, and last Christmas was at the front, among some of the very worst cases; some she could not talk or tell me about, they were so terrible. The worst case she spoke of was under a tent, so shot to pieces he could not be moved at all. She had just to sit beside this heap of human shreds and do what she could to help and comfort him during those last terrible moments. I hope she will keep up her strength, so as to stay on now, for she is doing very good work, I imagine, and the hospitals with women have so many details attended to that are neglected in those which have only men on the staff.

Contessina di R. left her hospital, where comparatively little was going on, and went to Gorizia for this advance. During the worst part of the fighting she worked three days and three nights without changing her clothes. Her hospital was struck, and she moved the wounded to cellars which were fire-proof, as the building had been a bank. She slept, after the rush the first night, in an old castle. This also was struck by the Austrians in the night, and the unoccupied wing was demolished. A splendid, brave girl; no nerves! She said the noise of the bombardment was deafening.

The Alpini on the Dolomites mostly live in the valleys below and their wives mend their socks. A little wool saved many men's lives the other day. It was reported to camp hospital in X, 4,800 feet high, that some wounded had been caught in a snowstorm at an Alpine pass. The road was blocked, the temperature many degrees below zero. We phoned through the mountains for the Alpini, and promised to rig every man in new socks, scarfs, and woolens who would bring back a wounded soldier. The men disappeared and nothing was heard of them for eight hours, when, one by one, they returned, each carrying a wounded man on his back, so that not one was left behind. Don't you think that was a priceless bundle of wool? Such feats happen daily. Nobody here knows what those men are enduring, and the spirit that keeps them up we can never repay.

Our Surgical Dressing Committee has been splendidly organized now by the Contessa di Robilant. We are in one of the most beautiful old palaces of Rome, one in which the German Emperor was once entertained, and expressed great envy of the ball-room, saying that he could never return the hospitality in any room in Berlin that could compare to this!



Photograph by American Colony, Jerusalem

A FORERUNNER OF FAMINE: LOCUSTS IN THE LARVA STAGE

The armies of men are not the only legions which spread desolation over fertile fields. There is no more dreaded precursor of famine than the locust, whose hosts destroy every grain of wheat and blade of grass growing in their path. Since the days of the Seven Plagues of Egypt this insect has been a synonym for crop failure and consequent famine.

FEARFUL FAMINES OF THE PAST

History Will Repeat Itself Unless the American People Conserve Their Resources

By Ralph A. Graves

"GIVE us bread!" is the despairing cry which today comes across the seas to America in a score of tongues from three hundred million people who stand on the brink of the abyss of starvation.

All the resources of the nations of Europe and Asia Minor have been diverted for three years from gainful pursuits to the destructive activities of war. Men have been forced to put aside the hoe and scythe; fertile fields have been gashed by trench and blasted by shrapnel until they can serve no purpose save as graves for the slain; the plowshare has been beaten into the sword, the fertilizer converted into high explosives.

Thus have the agencies of plenty been made to breed havoc over land and sea.

What is in store for mankind if America fails to respond with all her food resources to this call for help?

The fearful famines of history reveal to us what may happen—nay, what inevitably must happen—now, as in the past, with the difference that whereas famines of a bygone age took their toll in thousands, the famine of today, if it materializes, will compute its death roll in millions.

Grim, gaunt, and loathsome, like the three fateful sisters of Greek mythology, war, famine, and pestilence have decreed untimely deaths for the hosts of the earth since the beginning of time. A veritable trinity of evil, the three are as one scourge, equal in their devastating power and in their sinister universality.

Twentieth century civilization, with science and industry for its allies, grappled with these potent forces of destruction, and there were those who, as recently as the early summer of 1914, believed that the good fight had been won; that never again would the pleasant places of earth be baptized in the blood of a peaceful people; that never again would ravening plague, following through the fields harvested by cannon, claim its victims by the tens of thousands; that never again would the silent specter of hunger stalk through the world with but one nation to stay its progress.

But the era of permanent peace is yet to be won by the sword of democracy, and science finds that she still has her battles to wage against the armies of contagion mobilized in the charnel houses of ravaged nations.

AMERICA ALONE CAN DEFEAT MAN'S THIRD FOE

There is still a chance, however, to defeat mankind's third great foe—famine.

Is the struggle to feed the world worth the sacrifice which America will be called upon to make? Here are presented a few pages from history's black chronicle of the suffering and the degradation which famine has wrought in every clime and among every people. If to save mankind from a recurrence of these horrors is a goal worthy the industry and the resources of our republic, the answer is plain.

A survey of the past shows that war, pestilence, and famine always have been related, sometimes one and sometimes another being the cause, and the other two the effect. Where one of the trio has occurred the others, sometimes singly, but usually together, have followed.

The primary cause of famine almost invariably has been a failure of food crops. This failure has often resulted from a variety of natural causes—long-continued drought, blasting hot winds, insect armies, earthquakes, severe and untimely frosts, and destructive inundations.

But war also brings in its train crop shortage by withdrawing from the fields the men required to till the soil, and by devastating harvest land in order that an enemy may be vanquished through starvation.

Even when the fires of conflict have burned themselves out, the grip of famine frequently has remained upon a land because the husbandman either cannot or will not immediately resume his productive function. Oftentimes a whole people's industrial fiber has been impaired by the hardships of war and by moral degeneracy incident to camp life, so that a full generation has been required to restore their country's thrift and enterprise.

Pestilence is the inevitable handmaiden of both famine and war, for the dead of the battlefield breed contagion which finds easy victims among those whose powers of resistance have been sapped by lack of nourishment.

Thus the three great agencies of wholesale destruction constitute a terrible triangle, each force coördinating with the other two; and famine is the base line.

EARLIEST RECORD OF A FAMINE

Among the earliest authentic records of history is the famous "stele of famine," recently discovered carved on a tomb of granite on the island of Sahal, in the first cataract of the Nile. Egyptologists differ as to its exact antiquity, but there is evidence to prove that it was chiseled in the time of Tcheser (or Tosorthrus), who held sway over Egypt nearly two thousand years before the time of Abraham.

"I am mourning on my high throne," lamented this monarch of ancient times, "for the vast misfortune, because the Nile flood in my time has not come for seven years. Light is the grain; there is lack of crops and of all kinds of food. Each man has become a thief to his neighbor. They desire to hasten and cannot walk. The child cries, the youth creeps along, and the old man; their souls are bowed down, their legs are bent together and drag along the ground, and their hands rest in their bosoms. The counsel of the great ones of the court is but emptiness. Torn open are the chests of provisions, but instead of contents there is air. Everything is exhausted."

Thus runs the first chronicle of mankind's suffering in days of famine.

A period greater than that which stretches between the Crucifixion and the present day elapsed after the famine of Tcheser's reign before Joseph arrived to hold sway over this same land of Egypt. As the chief administrator for one of the Hyksos Pharaohs, he prepared for seven lean years which were to drive his brothers and his aged father, Jacob, out of Canaan, down into the valley of the Nile in search of corn.

THE FAMINE OF JOSEPH'S DAY

While the suffering which accompanied this famine was perhaps in no degree comparable to the devastation wrought by the failure of crops in subsequent periods of the world's history, no other has a stronger hold upon the imagination of western civilization, for the details of the dearth are set forth in Biblical records of engrossing interest.

It was during Joseph's administration that there was inaugurated the system of land rentals in Egypt which has survived to this day in many parts of the earth, notably in India. By the end of the second year of the famine the people had given to the Israelite all of their money and all of their cattle in exchange for corn. They had naught else with which to purchase food except their land. This they eventually surrendered and the Pharaohs became the great land-owners of the Nile Valley, while the peasants became serfs, paying thereafter to their masters a full fifth of the yield of their farms each year.

In all, ten famines are recorded in the Bible; but none, save this in which Joseph plays so important a rôle, was of more than restricted significance, either as to territory or influence on history.

One of the other nine, however, is worthy of mention for its romantic interest—a ten-year famine which drove Naomi and her husband out of the land of Judah into the country of the Moabites. At the end of the decade of crop failures, when the widowed and childbereft sojourner decided to return to her own people, the literature of the world was enriched for all time by Ruth's matchless expression of woman's loyalty and devotion to woman in her "Entreat me not to leave thee, or to return from following after thee."

Two other biblical famines are noteworthy as preludes to the depravity to which hunger brought mankind in succeeding generations. The first authentic record of cannibalism as a result of famine is found in the sacred recital of the siege of Samaria by Ben-hadad, King of Syria, in the ninth century before the dawn of the Christian era:

"And as the King of Israel was walking upon the wall," so runs the account in the Second Book of Kings, "there cried a woman unto him, saying, Help, my lord, O King. . . . This woman said unto me, Give thy son, that we may eat him today, and we will eat my son tomorrow. So we boiled my son, and did eat him; and I said unto her the next day, Give thy son that we may eat him; and she hath hid her son."

It was in this same famine that it is recorded an ass's head was sold for fourscore pieces of silver (probably about $50) and "the fourth part of a cab of dove's dung [a pint] for five pieces of silver."

A hundred years after the Samarian famine Rome's dawn upon the horizon of history was signalized, according to Plutarch, by a frightful pestilence and famine. Blood or crimson-colored insects fell from the clouds; disease, starvation, and the sword ravaged all Campania.

From this baleful beginning Rome's early history was punctuated by a succession of famines, pestilences, and wars; but none marked by any outstanding severity or event which focuses human interest until the middle of the fifth century before the Christian era. Beginning 450 B. C., however, there was a series of famines extending over a period of nearly twenty years.

In one season of particular severity thousands of desperate people flung themselves into the Tiber to escape the terrible suffering of hunger.

It was to such distress that the plebeian knight, Spurius Maelius, ministered, importing corn and selling it at low rates or giving it away to the starving. This charity made him the idol of the common people and therefore an object of suspicion to the patrician class. The latter professed to see in such bounty an attempt on the part of the public benefactor to make himself king.

THE ROMAN JOSEPH SLAIN

In this supposed extremity an appeal was made to Cincinnatus, who had recently returned to his farm and his plow after his brief dictatorship, during which he had saved Rome. Maelius refused to appear before the dictator; whereupon Servilius Ahala, Cincinnatus' master of horse, discovering the knight in the crowd in front of the forum, struck him dead.

Thus perished the Roman counterpart of Joseph, with the difference that Maelius was perhaps a self-seeking philanthropist, whereas the Israelite in the land of the Pharaohs sought no personal aggrandizement, but profit for his king.

Some fifty years after the death of Maelius, the Gauls, led by Brennus, brought all three of the great scourges of mankind—war, pestilence, and famine—within the very walls of Rome. Concerning this period the historians of a later era wove a series of heroic legends as picturesque as the Arthurian tales.

It was at this time that the Roman senators, after the defeat of their army at Allia, put on their robes of office and seated themselves in their accustomed places to await in silence the arrival of the barbarians and their own death. The imposing austerity of the city fathers for a moment struck the invaders with awe; but when one of the soldiers plucked the beard of a senator and was smitten by the outraged patrician, all the inhabitants were put to the sword and the city reduced to ashes.

Marcus Manlius and a faithful band still occupied the citadel, however, and for seven months they held it in the face of dire famine. The ranks of the invaders in the meantime were ravaged by pestilence, caused by their failure to bury

Photograph from Foreign Missions Library

ORPHAN BOYS OF INDIA, WHO OWE THEIR LIVES TO THE PROMPT RELIEF MEASURES ADOPTED IN THE FAMINE OF 1900

In spite of the fact that its peasants are among the most frugal in the world and its wheat fields, under favorable conditions, are among the most fertile, India has suffered more from famine than any other country. The density of population in certain areas and the absolute dependence of crops upon an abundance of rain account for the toll which starvation has exacted in this vast empire for 2,000 years.

the bodies of their victims. It was during this siege that the Roman youth, Pontius Cominius, swam the Tiber "on corks," and by a secret path scaled the garrison hill, bringing important news to Manlius.

In the morning the path was discovered by the enemy, and the following night the Gauls began the ascent, their secret attack being frustrated only through the cackling of the geese in the temple of Juno, which awakened Manlius in time for him to hurl the leading assailant down upon his comrades and thus save the citadel.

Famine and pestilence continuing, the Romans finally agreed to ransom their desolated city for a thousand pounds of gold. In the process of weighing the treasure they protested against the cheating of the barbarians; whereupon the Gallic leader cast his sword into the scale, crying, "Vae victis" (Woe to the conquered), an admonition which, as the present European conflict proves, has not lost its significance in the more than twenty centuries which have rolled over the war-racked world since that direful day.

One of the earliest chiefs of systematic famine relief work was Augustus Cæsar, who was at war with the Parthians when summoned back to Rome by the disaster of 23 B. C., when the Tiber overflowed, causing wide-spread suffering.

The starving plebeians proclaimed him dictator and urged him to assume control of the corn supply, which he did with exceptional skill and industry. He sent ships to many quarters of the Mediterranean to collect corn, and placed his grandson, Tiberius, in charge of the work of unloading the grain at Ostia and transporting it to the capital, all of which was done with great dispatch.

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A FAMILY OF FAMINE SUFFERERS IN INDIA

In twenty-three famines which occurred in India between 1769 and 1900 more than 25,000,000 natives perished. Some of the most terrible periods of distress have befallen the empire at times when the British Government believed that it had solved the problem of famine relief.

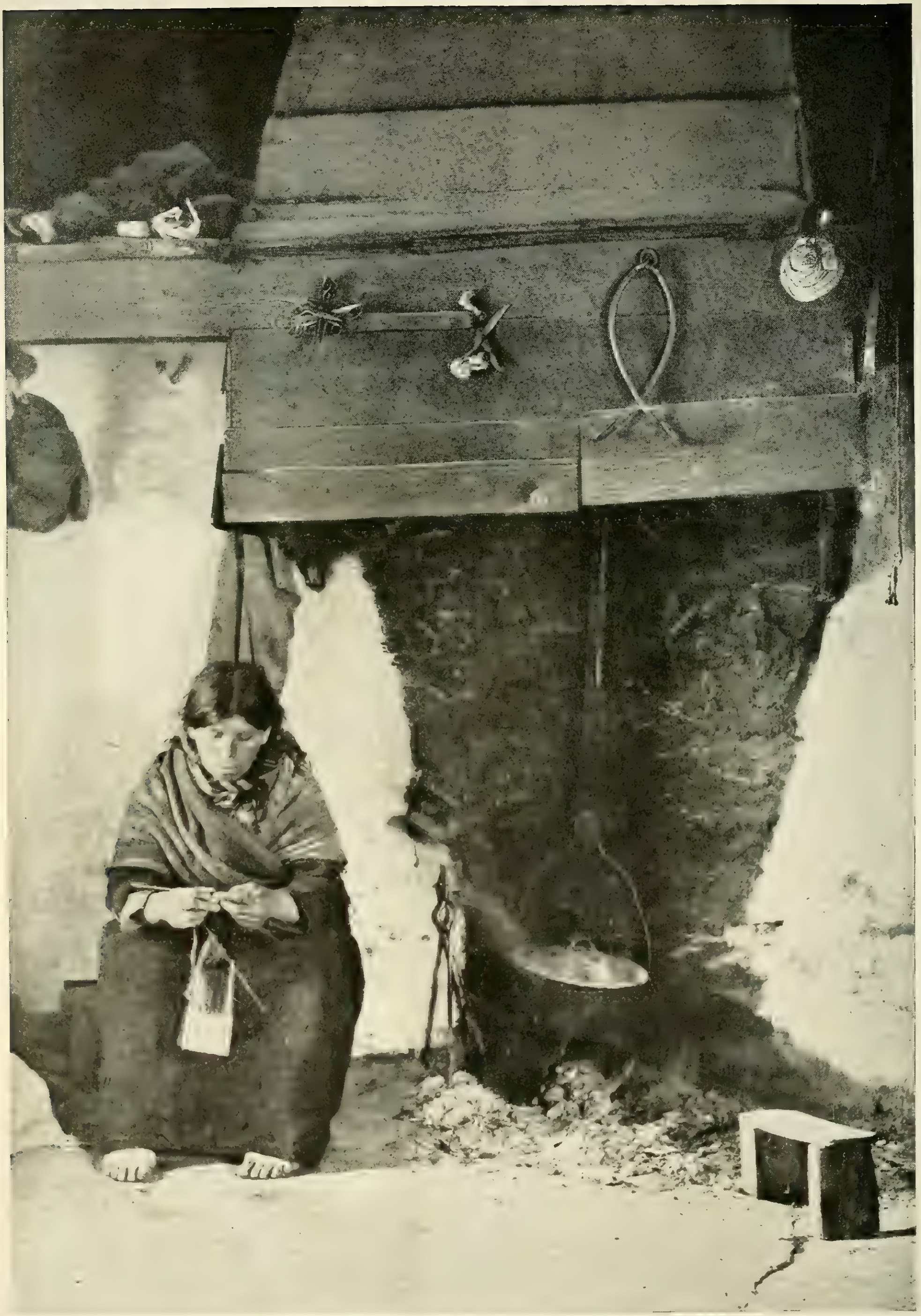
SHIPS AND MILITARY HIGHWAYS SAFEGUARDED ROME FROM FAMINE

From the time of Augustus, throughout the days of the empire, Rome seldom suffered from famine—a striking contrast to the frequency of this affliction in the days of the infant republic. The nation's sources of supply were now so numerous and her far-flung provinces so fruitful that when crops failed in one quarter there was sure to be a bountiful harvest in some other part of the Roman world. Two other factors which contributed materially toward preventing shortage in food supplies throughout the empire were the excellence of the military highways and the splendid fleets which sailed the Mediterranean.

In striking proof of the manner in which the empire's transportation system served to check the ravages of famine, Pliny relates that when, during Trajan's reign, Egypt experienced a low Nile which threatened a great dearth, immediately corn ships were dispatched from other provinces and wide-spread suffering was prevented.

"This vain and proud nation," writes the Roman historian, "boasted that though it was conquered it nevertheless fed its conquerors. But this most fruitful province would now have been ruined had it not worn Roman chains."

Of course, there were some exceptions to this general rule. There was, for example, that terrible period of suffering from 79 to 88 A. D., when the Roman world seemed to be shaken to its physical foundations. In addition to the devastating drought and famine which swept over the Italian peninsula, during which 10,000 citizens are said to have died in one day at Rome, there followed the shock of earthquakes and the cataclysmic eruption of volcanoes. Herculaneum and Pompeii were overwhelmed with volcanic ash and lava at this time, and Syria and Africa were blighted by pestilence and famine.



Photograph by A. W. Cutler

THE DINNER POTS ARE NO LONGER EMPTY IN THE COTTAGES ON THE CONNEMARA COAST OF IRELAND

Extreme poverty reigned in the Emerald Isle years ago when the potato crop was a failure, thousands dying when resulting famine set in. Happily, conditions are greatly improved among the Irish peasantry today. Although it is apparent that she could use them to advantage herself, this mother is probably knitting socks for her soldier son in the trenches of Flanders.

Tacitus left grim pictures of the distress and suffering which afflicted the civilized world in that era, when houses were filled with dead bodies and the streets with funerals.

A peculiar feature of the famine and pestilence which visited the Roman province of Apulia a hundred years later was the amazing swarm of locusts which filled the air and covered the ground. Sicinius was dispatched with an army to try to battle with the winged pests. Thousands of peasants lay down to die on the highroads, and so dire was the pestilence which accompanied the famine that even the vultures refused to feed upon the fallen.

This scourge of starvation and pestilence extended as far west as England. During a brief period 5,000 people died daily in Rome, where the only method of combatting disease was the practice of "filling the noses and ears with sweet-smelling ointments to keep out the contagion."

It is not improbable that the suffering of this time was a "flareback" from the pestilence of 166 A. D., which had been borne to Rome from Arabia, where, according to Ammianus Marcellinus, it had emanated from the foul air which escaped from "a small box opened by a Roman soldier, Pandora-like, at the capture of Seleucia."

Not only did famine and pestilence spread from Arabia to the banks of the Rhine, but also "inundations, caterpillars, vapors, and insects," leaving in their wake decayed and deserted villages throughout Gaul.

EGYPTIAN FAMINES UNDER MOHAMMEDAN RULE

Probably in no other country in the world has a people been brought to such a low ebb of morality or become so completely lost to all semblance of rational humanity as in the series of famines which swept over Egypt during the tenth, eleventh, and twelfth centuries, under Mohammedan rule.

A low Nile in 967 A. D. resulted in a famine the following year, which swept away 600,000 people in the vicinity of the city of Fustat. G'awhar, a Mohammedan Joseph, founded a new city (the Cairo of today) a short distance from the stricken town and immediately organized relief measures.

The Caliph Mo'izz lent every assistance to his lieutenant, sending many ships laden with grain; but the price of bread still remained high, and G'awhar, being a food controller who had no patience with persuasive methods, ordered his soldiers to seize all the millers and grain dealers and flog them in the public market place. The administrator then established central grain depots and corn was sold throughout the two years of the famine under the eyes of a government inspector.

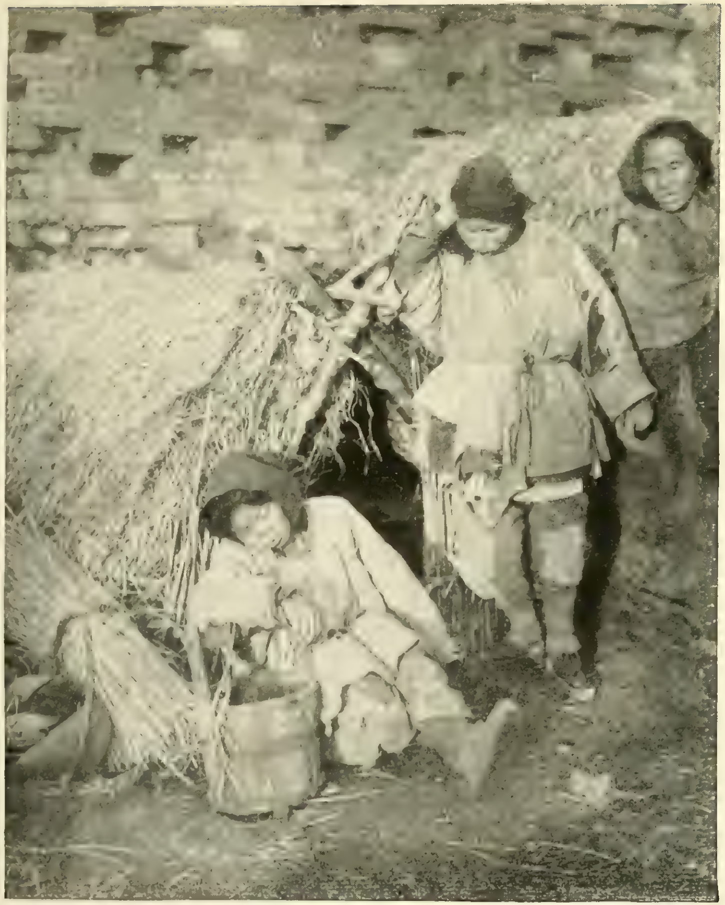
In taking these steps to mitigate the suffering of the Egyptians the Mohammedan viceroy was far in advance of the European rulers of his day, but in allowing the natives to cast their hundreds of unburied dead into the Nile, thereby tainting the waters all the way to the sea, he failed to evince any glimmer of understanding of the laws of sanitation.

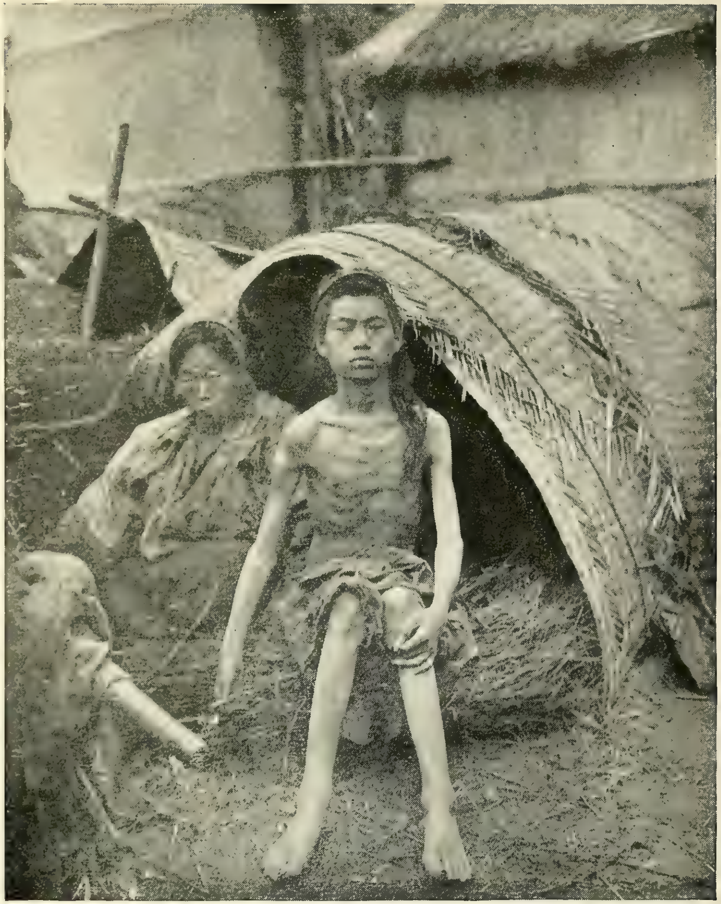
TERRIBLE PUNISHMENT FOR A REBEL

During this famine and the subsequent plague a petty official of lower Egypt revolted against G'awhar. The rebellion was suppressed with some difficulty, but the leader was finally captured in Syria. As an example of the fate which would befall all rebel leaders in times of national calamity, G'awhar made the unhappy captive drink sesame oil for a month, after which his skin was stripped from him and stuffed with straw, then hung upon a beam and displayed throughout the country.

There was no G'awhar to conduct the relief work during the next Egyptian famine, which came in 1025, during the Caliphate of Zahir. The suffering, therefore, was much more wide-spread. It became necessary to prohibit the slaughter of cattle, and there was no meat to be had anywhere, as fowls, the common meat of Egypt, had quickly disappeared.

The stronger among the population turned brigand and began to prey upon the weaker members of society. Caravans and pilgrims were attacked and Syrian bands began to invade border towns.





Photographs from Board of Foreign Missions

HUNGER PAINS HAVE DONE THEIR WORK; THE END IS NOT FAR OFF

In the four great famines of 1810, 1811, 1846, and 1849 the death toll is estimated to have been 45,000,000 Chinese. During the three years of dearth (1875-1878) which afflicted four provinces in the district known as the Garden of China nine millions perished in an area the size of France.

FACING WINTER AND STARVATION IN THE CHINESE FAMINE OF 1910-1911

The lot of the Chinese boy is supposed to be much brighter than that of his sister, but in times of famine it is the daughter of the household who frequently fares best; for parents find it both expedient and humane to sell the girls of the household, not only for the sake of the purchase money, but because the owner will not allow his newly bought slave to die of hunger.

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SUPPLIANTS FOR PUBLIC BOUNTY IN TIMES OF FAMINE: INDIA

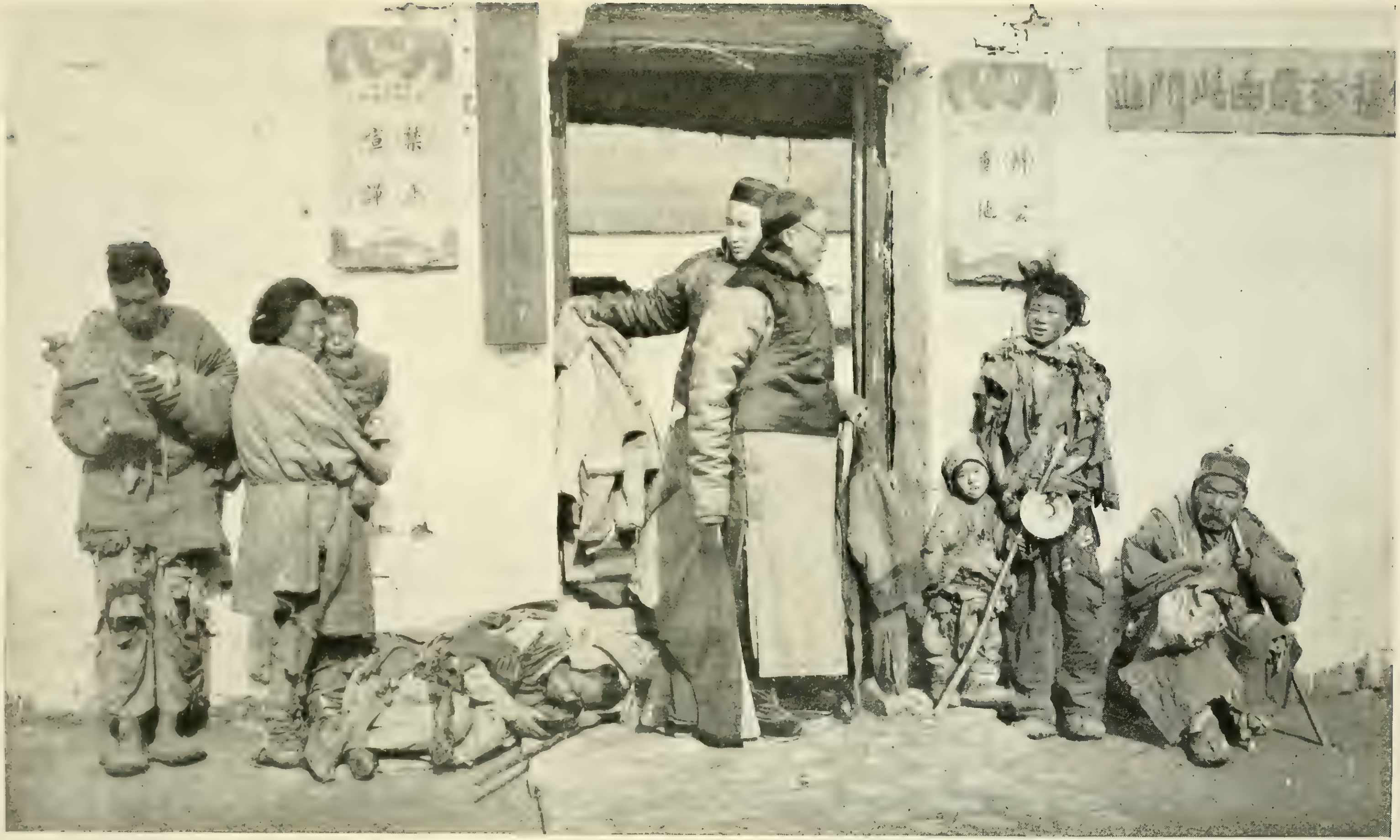
One of the difficulties which the British Government has encountered in its relief work in India has been the problem of caste. In the great Orissa famine thousands of Santals perished in the midst of ample supplies before it was discovered that a peculiar tenet of this tribe forbids its members to touch food cooked by Brahmins. The more enlightened native princes have been quick to coöperate with the British officials in aiding the starving millions, a notable instance being the foundation of the "Indian People's Famine Fund" by the Maharaja of Jaipur, who contributed $600,000 to the charity out of his private purse.

People flocked to the palace in masses, crying piteously for relief at the hands of the Commander of the Faithful; but no help was to be had in that quarter, for the palace itself was so short of provisions that when the banquet for the Feast of the Sacrifice was spread the slaves of the royal household broke in and swept the tables. Slaves began to rise in revolt in all parts of the country and it became necessary for citizens to organize committees of safety for self-protection, the government granting permits to kill the bondmen. The vizier, el-Gargarai, was himself imprisoned in his own house. With an ample Nile in 1027, however, the period of suffering came to an end.

A third and far more terrible famine came in 1064, and, like that which afflicted the land in the days of Tcheser and of Joseph, lasted for seven fearful years. To the hardships of starvation were added the miseries of civil warfare. Nasir-ed-dawla, commander-in-chief of the Fatamid army, upon being deposed by the Caliph Mustansir, quickly gained the support of bands of Arabs and Berbers. Black regiments were soon in control of all upper Egypt.

Forty thousand horsemen of the Lewata Berbers descended upon the delta of the Nile and swept all before them, cutting dikes and destroying canals with the malign purpose of spreading starvation. Both Fustat and Cairo were cut off from supplies, and to add to all these tribulations the Nile failed to come to a flood in 1065. The result was indescribably terrible.

The peasantry, not daring to venture into their fields for fear of the armed bands of brigands, were unable to carry on any agricultural pursuits; so that the dearth of one year's harvest was pro-



Photograph from Board of Foreign Missions

CHINESE INSPECTOR AND HIS ASSISTANT DISTRIBUTING CLOTHING TO A FAMILY OF SEVEN FAMINE SUFFERERS

Added to the distress occasioned by the shortage of food in China were the hardships of an unusually severe winter in 1910-1911. The whole western world responded generously to the appeal for aid, clothing and wheat being wisely distributed.

longed into seven. Prices soared to heights probably never before reached in the Near East.

A single cake of bread sold for 15 dinars (the value of a dinar is slightly more than $2.50), five bushels of grain sold for 100 dinars, and eggs were scarce at a dinar each.

Cats and dogs brought fabulous prices, and women, unable to purchase food with their pearls and emeralds, flung the useless jewels into the streets. One woman, according to a historian of the time, gave a necklace worth 1,000 dinars for a mere handful of flour. The caliph's stable, which had numbered 10,000 horses and mules, was reduced to three scrawny "nags."

HUMAN FLESH SOLD IN OPEN MARKET

Rich and poor suffered on equal terms. Finally the desperate people resorted to revolting cannibalism. Human flesh, which was sold in the open market, was obtained in the most horrible manner. Butchers concealed themselves behind latticed windows in the upper stories of houses which looked out upon busy thoroughfares. Letting down ropes to which were attached great meat hooks, these anglers for human flesh snared the unwary pedestrians, drew their shrieking victims through the air, and then prepared and cooked the food before presenting it for sale in the stalls on the street level.

This seven years' reversion to savagery induced by starvation had its companion period of suffering and degradation in the same country during the years 1201 and 1202. A gruesome picture of the harrowing events has been preserved in the writings of Abd-el-Latif, a learned Bagdad physician who lived in Cairo during the days which he describes in such horror-awakening detail.

Whole quarters and villages became deserted during the famine which followed the low Nile of 1200 and 1201, according to this chronicler, who maintains that the starving populace ate human flesh habitually. True, the punishment meted out to those detected in the crime was death at the stake, but few criminals were caught, and the custom could be practiced with impunity by parents who subsisted on their own children. Men waylaid women in the streets and snatched babies from their mothers' arms, and the literal physician recites at length the various dishes into which the murderous kidnappers converted their infant forage.

The very graves of Egypt were ransacked for food. The roads became death traps, while flocks of vultures and packs of hyenas and jackals mapped the march of the cannibal outlaws. Of course, the piles of unburied dead bred pestilence of a virulent type.

It is recorded that in a single month one piece of property in Cairo passed to forty heirs in rapid succession, so sweeping was the mortality.

In this famine man seems to have plunged to the utmost depths of degradation and suffering.

Vastly different were the scenes which accompanied the severe Egyptian famine of 1264, chiefly because there had arrived in the country a man of rare administrative ability—Bibars, a native of Kipchak, between the Ural Mountains and the Caspian. It is well to study Bibars, for, coming shortly after the two anthropophagous debauches of the Egyptians, his conduct of affairs demonstrates what a firm hand might have been able to accomplish in the preceding emergencies.

A tall, robust figure, Bibars won from a historian of that period the tribute that "as a soldier he was not inferior to Julius Cæsar, nor in malignity to Nero." Yet he was a sober, energetic, and resourceful executive, just to his own people and lenient toward his Christian subjects.

This former slave, who brought only £20 when sold at auction, because of a cataract on one of his eyes, was the real founder of the Mameluke Empire. He met the famine situation promptly and vigorously, regulating the sale of corn wisely, and compelling his officers and emirs to support the destitute for three months.

Nor did he stop with these measures. With astonishing forethought, considering the age in which he lived and the people over whom he ruled, he attempted by scientific isolation to eradicate contagious diseases. Brothels and taverns

Photograph by Earle Harrison

FORTY CENTURIES LOOK DOWN UPON A LAND OF ALTERNATE STARVATION AND PLENTY

Since the beginning of recorded time Egypt has been a land of plenty when the Nile has overflowed in its proper season; but when the waters have failed to cover the great valley, instead of being the granary of the Near East, this country of the ancient Pharaohs has been a region of direst suffering.

were closed and many other measures were taken looking toward a healthier and a cleaner Cairo.

FAMINES IN ENGLAND

The story of famines in England has been a gloomy one from earliest times. At the beginning of the eighth century a dearth, which extended to Ireland, drove men to cannibalism. It was not until the reign of Aethelred the Unready, however, that "such a famine prevailed as no man can remember," from 1005 to 1016.

Those chroniclers who were wont to see bad conditions at their worst declared that half the population of the larger island perished. But it must be remembered that much of the mortality of this period was occasioned by the wars between Aethelred and Sweyn the Dane, the latter being forced by the famine to retire from England for a time.

Naturally, the era following the advent of William the Conqueror was one of wide-spread starvation and pestilence among the English peasantry. During the last thirty years of the eleventh century, nine were years of dire distress.

So great was the dearth in 1069 that the peasants of the north, unable longer to secure dogs and horses to appease their hunger, sold themselves into slavery in order to be fed by their masters. All the land between Durham and York lay waste, without inhabitants or people to till the soil for nine years, says Beverly, and another writer accuses the destitute of cannibalism.

There were many sections of England which were unaffected by this famine, however, and had there been better means of communication and conveyance of supplies the suffering would have been greatly mitigated. A factor which contributed to the seriousness of the situation was the burden of taxes exacted by the conquerors. Peasants became discouraged, realizing that the fruits of their labor were taken from them as fast as earned.

There were sporadic periods of suffering during the succeeding reigns of William Rufus and Henry I, in the civil wars of Stephen's times, and under Henry II. But the next dearth which especially quickens the sympathy was that which befell the people in the days of Richard Cœur de Lion, the Crusader. There is a brief reference to the famine of this period in "Ivanhoe."

Starvation was followed by a pestilential fever which sprang "as if from the corpses of the famished." Ceremonial burial was omitted except in the cases of the very rich, and in populous places the victims were interred in shallow trenches, a practice followed at a later period when the Black Death killed its millions.

While backward seasons were contributing factors, the responsibility for the two great famines of Henry III's reign is to be laid at the door of the government itself. In the first of these (1235) 20,000 persons are said to have died in London alone. The suffering in 1257-1259 was even worse, for the whole kingdom had been drained of its coinage by the taxes which the king had levied to pay German troops and to buy electoral votes for his brother, the Earl of Cornwall, who was a candidate for the imperial crown of the Holy Roman Empire.

FIRST CURB ON THE MIDDLEMAN

It was during this famine that England for the first time imported from Germany and Holland grain to alleviate the suffering of her poorer classes. The Earl of Cornwall himself sent sixty shiploads of food, which was sold for his account to the starving. More grain was brought into the country than had been produced the previous season in three counties. The following year (1258) there was a bountiful harvest, but destructive rains caused the heavy crops to rot in the fields, and even the grain which was gathered became mouldy.

The first ordinance in English history designed to curb the greed of the middleman was passed during this time of shortage in food supplies.

Few English kings have lived through greater periods of distress than Edward II, who was scarcely able to secure food for his own immediate household when the heavy rains of 1314 spoiled the harvests. Misery was wide-spread and intense; the dead lined the roadsides;

everything imaginable was eaten—dogs, horses, cats, even babies. The jails were crowded with felons, and when a new criminal was thrown into a cell he was seized upon by the starving inmates and literally torn to pieces for food.

With the exception of the present world war, perhaps no other calamity that ever befell the human race can be compared with that of the Black Death and the accompanying famine, which afflicted all western civilization during the middle decade of the fourteenth century. Its toll has been variously estimated at from one-fourth to three-fourths of the entire population of Europe. Certainly it was not less than 20,000,000 people.

There always has been a certain degree of doubt as to the exact origin of this plague; but one of the most circumstantial hypotheses is that the seeds of destruction were sown in northern China, when a great inundation destroyed the crops and hundreds of thousands became the victims of starvation. Rats spread pestilence abroad.

One of the first places in Europe where the Black Death appeared was at a small Genoese fort in the Crimea, the western terminus of the overland Chinese trade route. The Tatars were besieging the fort at the time, and Chinese merchants took refuge there. The siege was lifted by the investing army, which fled from the plague, thus spreading the infection southward into Asia Minor, Syria, and Egypt. Ships from the Euxine carried the contagion to Constantinople and to Genoa, and thence it radiated, fanshape, throughout the Mediterranean littoral.

THE BLACK DEATH IN ENGLAND

In August, 1348, England's first Black Death victim succumbed in Dorsetshire. By November it had reached London. By the summer of 1349 it had dragged its pall of putrefaction over the entire island, including Scotland. Norwich, which had been the second city of the kingdom, dropped to sixth in size, more than two-thirds of its population falling victims of the scourge.

Cultivation of the fields was utterly impossible, and there were not even enough able-bodied laborers to gather the crops which had matured. Cattle roamed through the corn unmolested and the harvest rotted where it stood.

Out of the situation which resulted from the impoverishment of the labor resources of the kingdom grew the first great clash in England between capital and labor. The peasants became masters of the situation. In some instances they demanded double wages, and whereas formerly land-owners had paid one-twelfth of every quarter of wheat as the harvesting wage, they were now forced to pay one-eighth.

Parliament hurriedly passed drastic laws in an effort to meet the new condition. Statutes provided that "every man or woman, bond or free, able in body and within the age of threescore years, not having his own whereof he may live, nor land of his own about which he may occupy himself, and not serving any other, shall be bound to serve the employer who shall require him to do so, provided that the lords of any bondsman or land-servant shall be preferred before others for his service; that such servants shall take only the wages which were customarily given in 1347" (the year prior to the first appearance of the plague).

Violation of the statute meant imprisonment; and it was further provided that any reaper, mower, or workman leaving service should be imprisoned. If workmen demanded more than the regulation wage, they were to be fined double, and the land-owner who paid more than the prescribed sum was to be fined treble that amount. Runaway laborers were to be branded with an "F" as a perpetual sign of their falsity. No bail was to be accepted for any of these labor offenses.

It is not within the province of this article to review the political turmoil which this legislation brought about. Suffice it to say that it resulted in precipitating one of the most distressing times in the history of constitutional government since the Magna Charta was wrested from King John.

FAMINES OF FRANCE

No country of Europe suffered more from famine between the eighth century and the close of the eighteenth than France. The failure of crops from natural causes entailed far fewer hardships, however, than the gross injustice of the country's kings and courtiers. From 750 to the French Revolution, the land scarcely recovered from one period of dearth before some untoward event plunged it into new woes.

From 987 to 1059, during the early stages of feudalism, forty-eight famines devastated the peasantry—an average of a famine every eighteen months. The year 1000 was a time of extraordinary suffering, for the whole country was seized with a panic, fearing that the world would come to an end during this the millennial year. Thousands went on pilgrimages, deserting their homes and their fields and obstructing the whole normal course of existence. This was the first wave of the great national movement which found expression a century later in the Crusades.

The fear of the end of the world having passed with the end of the millennial year, it was revived with even greater intensity when the 1000th anniversary of the Crucifixion approached. The miseries of mankind in Gaul at that time were incredible. The whole course of nature seemed to be upset, and there was intense cold in summer, oppressive heat in winter. Rains and frosts came out of season, and for three years (1030 to 1032) there was neither seed time nor harvest. Thousands upon thousands died of starvation, and the living were too weak to bury the dead. There were many horrible instances of cannibalism, and human flesh is said to have been exposed for sale in the market at Tournas. In their maddened condition the peasants exhumed human bodies and gnawed the bones.

One of the harrowing incidents of the time, which will give some idea of the insanity which suffering induced, occurred in the wood of Chatenay, near the town of Macon. A traveler and his wife stopped at a hut supposedly occupied by a holy hermit. Scarcely had they entered the abode, however, when the woman discovered a pile of skulls in the corner. She and her husband fled to the town, and when an investigation followed it was found that the hermit had murdered and partly devoured 48 men, women, and children.

Grass, roots, and white clay were the ordinary articles of food for the poorer classes during these terrible years, and as a result the sufferers almost ceased to resemble human beings, their stomachs becoming greatly distended, while almost all the bones of their bodies were visible beneath their leathery skin. Their very voices became thin and piping.

Packs of raging wolves came out of the forests and fell upon the defenseless peasants. It seemed as if mankind in France could never recover. But suddenly the fields brought forth grain in abundance and the peasantry responded with astonishing virility.

FAMINE AMONG THE FRENCH CRUSADERS

France suffered greatly from famine and pestilence during the Crusades, but like the other nations which participated in the eight attempts to wrest the Holy Land from the Mohammedans, the most spectacular instances of privation occurred among her armies in Palestine and Egypt rather than among the people at home. During the first crusade, plague, supplemented by famine, destroyed 100,000 men, women, and children between September and December of the year 1097.

During the crusade against the heretics in 1218, one-sixth of the assailants perished at the siege of the Egyptian city of Damietta, while only 3,000 (some historians say 10,000) of the 70,000 inhabitants of the beleaguered place survived. In the eighth and last crusade France lost her king, Louis IX, and his son, Jean Tristan, both of whom were stricken with the pestilence which broke out at Carthage.

That indefatigable Walloon chronicler, Froissart, gives a simple but effective account of the four years' famine which fell upon France in the middle of the fourteenth century. "During that time," he writes, "the merchants nor others dared venture out of town to look after their concerns or to take any journey, for they were attacked and killed whatever road they took. The kingdom was so full of the Navarrois [adherents of the King of Navarre] that they were masters of all the flat countries, the rivers, principal towns, and cities. This caused such a scarcity of provisions in France that a small cask of herrings sold for 30 golden crowns. Many of the poor died of famine. The lower classes suffered particularly for salt, which was highly taxed in order to secure the money with which to pay the army."

Of course, much of the suffering of this period in France was due to the fact that the whole country, like England, had had its vitality sapped by the ravages of the Black Death a few years previously.

"In 1437 a great famine swept over France and many other Christian countries," records Enguerrand de Monstrelet. "It was a pitiful sight to witness multitudes in the large towns dying in heaps on dunghills. Some towns drove the poor out of their gates, while others received all unfortunates and administered to them as long as they were able. Foremost in this act of mercy was Cambray."

This dearth lasted for two years, and it resulted in many strict regulations governing the sale and distribution of corn. Embargoes against the shipment of grain out of the communities in which it was raised were not unusual. The city of Ghent was especially active in dealing with the situation. An order was issued prohibiting the brewing of beer and all other liquors in which grain was used, and another conservation measure was the killing of all dogs belonging to the poorer people, in order that these classes might have the food that otherwise would have gone to the pets.

SUFFERING DUE TO EXTRAVAGANCE OF THE FRENCH COURT

The closing years of the reign of Louis XIV were marked by general suffering among the laboring classes throughout France, not so much on account of the failure of crops, but because of the oppressive burden of taxation necessitated by the extravagance and wastefulness of the French court. In some districts as much as three-sevenths of the peasant's daily wage was seized by the tax-gatherer. In the Duchy of Burgundy three-fourths of the people lived on barley and oaten bread. Emigration and death reduced the population until every seventh house was empty, and unusually small families held out little promise for the future rejuvenation of the country. The streets of towns and cities were thronged with beggars clad in indecent rags.

One of the greatest privations to which the peasants were subjected was the loss of their cattle, all of which were eaten. When a severe winter came, the wretched creatures were deprived of the warmth which they were accustomed to derive from sleeping side by side with the beasts.

Madame de Maintenon was accused, perhaps unjustly, of making a fortune out of France's miseries by trafficking in corn. She was mobbed in her carriage by the hungry crowd as she rode out of Versailles, where the living skeletons of men and women clamored daily for bread and could with difficulty be kept from the presence of the king. For a hundred years thereafter caricaturists depicted Frenchmen as tall, gaunt, lantern-jawed creatures, in contrast to the well-fed figure of the English John Bull.

The French Government officials made many sporadic efforts to better conditions, but their methods of dealing with the situation seemed only to magnify the distress. For example, they doubled the tolls on roads, and thereby put an end to what little commerce remained; ridiculous tariffs on foodstuffs aggravated the populace and many riots followed. Garrisons revolted and had to be given large bounties to return to their duties.

One of the most terrible periods of starvation which any city has undergone in modern times befell Paris during its siege in the Franco-Prussian War of 1870-1871. Thousands of refugees had flocked to the capital from the surrounding districts as the Germans advanced, yet there was not sufficient food within the fortifications to feed the normal population of the city. No provision had been made for the possibility of military disaster; the French Empire's only expectation had been an immediate triumph of its armies in the field. The severity

WHEN THE SEASONS SMILE ON RUSSIAN WHEAT LANDS

Russia is one of the world's greatest granaries, and it is the elimination of its wheat crop, owing to the exigencies of war, which has caused so large a responsibility to devolve upon America—the responsibility of feeding most of the nations of western Europe.

of the winter added its hardships to the horrors of famine. The civilian population was reduced to the most desperate straits. Dogs, cats, and rats were sold for food at extravagant prices and they were deemed rare luxuries by the starving. When the garrison finally capitulated and the Germans marched down the Champs Elysees, on March 1, many foreign nations joined in spirited rivalry to revictual the stricken city, but it was many weeks before the distress of the people could be relieved.

IRELAND'S MANY FAMINE WOES

Ireland has been a land of many woes, and not the least of these have been the famines which from time to time have taken such heavy toll of the island's manhood. As early as 963-964, an intolerable famine visited the country, and parents are said to have sold their children in order to get money with which to buy food. On at least three occasions the peasantry has been driven to cannibalism. The most notorious instance occurred during the dearth which accompanied the wars of Desmond, in the reign of Queen Elizabeth in England.

The poet Spenser, who was an eyewitness to the distress of the time, says that the famine slew far more than the sword, and that the survivors were unable to walk, but crawled out of the woods and glens. "They looked like anatomies of death; they did eat the dead carrion and one another soon after, insomuch as the very carcases they spared not to scrape out of their graves. To a plot of watercresses and shamrocks they flocked as to a feast."

Ireland's greatest hours of travail were postponed, however, until the two great famines of the nineteenth century, brought about in both instances by the failure of her potato crops.

The famine of 1822 was but a prelude to the desolation which swept over the island in 1845-1846. The earlier failure of the potato crop should have forewarned the people of the disaster which they were constantly inviting, and many reformers preached for years against the practice of neglecting the cultivation of all grains in favor of the American tuber.

"While the agriculturalists of the continent were suffering from overproduction, a grievous famine arose in Ireland in 1822, showing the anomalies of her situation, resulting from the staple food of her population differing from that of surrounding nations, or the limitation of her commercial exchanges with her neighbors," says Wade's British History. "Her distresses from scarcity were aggravated by the agrarian outrages, originating in the pressure of tithes and rack-rents on the peasantry and small farmers. Several of the ringleaders of these disorders were apprehended by the civil and military powers and great numbers executed or transported."

This period of stress in 1822 proved to be the rapids above the great cataract of calamity over which the Irish people plunged in 1845. In the latter year a pestilential blight of unexampled severity caused the whole potato crop to rot. Three-fourths of the population of the island was entirely dependent upon this staple for food at that time. The resulting suffering can scarcely be imagined.

AMERICA AMONG THE FIRST TO AID THE IRISH

As soon as the seriousness of the situation was realized aid was rushed to the starving people from all quarters of the globe, America being among the foremost sending food. The British Government established relief works, and throngs of peasants rushed to get "the Queen's pay."

In March and April, 1847, 2,500 died weekly in the workhouses alone. Thousands of starving peasants poured into England, many dying of famine fever while on board the emigrant ships. The total death toll was between 200,000 and 300,000.

Owing to deaths and emigration, the population of the island was reduced from 8,300,000 in 1845 to 6,600,000 six years later, and has been declining steadily ever since, until today it is about 4,300,000.

The pages of India's history are black with the blotches of famine. This vast and densely populated peninsula has been the very haunt of hunger for ages. Its

Photograph from Paul Thompson

SOMEWHERE ON THE ROAD "SOMEWHERE IN FRANCE"

Before the war these refugees were "a bold peasantry, their country's pride," adding to the nation's wealth and a people's plenty by the cultivation of rich fields. Today they are homeless, a drain upon the world's food resources rather than a productive element. America must make good the loss of their labor.

peasants are among the most frugal in the world and its valleys are among the most fertile; but it has suffered more from lack of food than any other nation on the face of the earth, not even excepting China.

And yet, if so intelligent and discriminating a chronicler as Megasthenes, ambassador in India from the court of Seleucus between 317 and 312 B. C., may be believed, up to that time there had never been a famine in this land. The uncertainty of the seasons since the dawn of the Christian era develops a far different story.

FAMINE'S TERRIBLE TOLL IN INDIA

In the ancient chronicles of Indian courts little space is given to the sufferings of the common people; hence the early accounts of famine are meager; but occasionally a single sentence from a poem or a historical sketch is illuminating in its very brevity. For example, we find the line, "The flesh of a son was preferred to his love," grimly suggesting the practice of cannibalism in times of dearth.

There are records of whole provinces being depopulated as early as 1022 and 1052 A. D., while at about the time that the Black Death was making its appearance in Europe a famine of such severity swept over Hindustan that the Mogul emperor himself was unable to obtain the necessaries for his household.

In 1630 a devastating drought afflicted the province of Gujarat and whole centers were depopulated. A Dutch merchant, returning from Swaily, reported that of 260 families only 11 had survived, while in Surat, a great and crowded city, he saw hardly a living soul, but at each street corner found piles of dead with none to bury them.

Unlike the famines in other countries, where there is frequently a variety of factors contributing to the failure of crops, in India the shortage almost invariably results from an absence of rain. The country is wholly dependent for food upon its countless small farms, which are worked on practically no capital. Local credit is in the main unorganized, and in times of stress millions of laborers are thrown out of work.

The success of India's crops from year to year depends upon two monsoons—the southwest, or *the rains,* and the northeast, which brings the winter rains. For a month or two before the rains (April and May) the greater part of the peninsula fairly gasps in the heat. The soil is baked and cultivation is impossible. With June comes the monsoon, which continues until the latter part of September. After the first showers the peasants plow their fields and sow the autumn harvest of millet and rice. The spring harvest, which consists largely of wheat and barley, is sown in October and November. Not only do droughts disarrange this schedule, but prolonged rains, accompanied by east winds, cause the wheat to rust, while hot west winds cause the swelling grain to shrivel on the stalk.

The first of the Indian famines to attract wide-spread interest in the western world was the great catastrophe of 1769-1770, during which it is estimated that fully 10,000,000 souls, a full third of the population of Bengal, perished. Like all the famines, it resulted from a failure of rain, supplemented by maladministration on the part of the East India Company.

The famines which occurred from 1780 to 1790 are worthy of note, because it was during this period that the British began to organize relief for the destitute. Lord Cornwallis, by his administrative ability as governor general in this trying time, here managed to regain some of the laurels which he had lost by his defeat at the hands of the American colonists during the Revolutionary War.

In the twenty-two famines which occurred in India between 1770 and 1900 more than 15,000,000 natives perished, and some of the most terrible years—notably the famine in southern India in 1876-1878, when 5,200,000 starved in British territory alone—have befallen the empire just when the government believed it had almost mastered the problem of relief.

CASTE COMPLICATES INDIAN FAMINE RELIEF

Great Britain has had many difficulties to overcome in handling the Indian food situation, not the least trying being the ever-recurring problem of caste.

Occupation is still preserved among the Indian natives by inheritance and tradition, so that the diversion of labor to industrial pursuits has been an almost impossible task. The supply of agricultural labor constantly outruns the demand, thus keeping the wage scale extremely low. Caste also prevents people from leaving crowded districts and going to sparsely inhabited regions, of which there are many.

In time of distress the restrictions which caste throws about rescue and relief work would be exasperating if they were not so tragic. For example, in the terrible Orissa famine thousands of Santals perished, in the midst of ample supplies furnished by the government, before it was discovered that there is a peculiar tenet of their faith which forbids them to touch food cooked by Brahmins. It was also discovered that skilled weavers would not go to the ordinary relief-work camps for fear that the hard labor would cause them to lose the delicacy of touch which they value so highly.

CHINESE FAMINE WHICH STARTED THE BLACK DEATH

China is another land which famine seems to have marked for its own. Here the difficulty is not so much a matter of crop failures as the excess production of the human crop from year to year. Existence is a perpetual struggle for food in the Celestial Empire, and the smallest deviation from a maximum yield destroys the margin of safety between "barely enough" and "starvation."

The four years between 1333 and 1337 constituted a period of unimagined suffering throughout China, and it is highly probable that it was in this era that the seeds of disaster were sown for Europe's Black Death, which appeared in the following decade. Famine and pestilence laid the whole country waste. Excessive rains caused destructive inundations, and according to Chinese records 4,000,000 people perished from starvation in the neighborhood of Kiang alone. Violent earthquakes occurred in many parts of the kingdom; whole mountains were thrown up and vast lakes formed. The fury of the elements subsided and the ravages of famine ceased in the very year that the Black Death reached England.

The four famines of 1810, 1811, 1846, and 1849 are said to have taken a toll of not less than 45,000,000 lives. In 1875-1878 four provinces in northern China, the district known as the "Garden of China," suffered a failure of crops owing to lack of rain, and in an area about the size of France nine millions perished.

Two recent periods of dearth in China which awakened wide interest and elicited generous contributions from the United States for relief work were the famines of 1906 and 1911, when floods in the Yangtze River basin affected 10,000,000 people residing in an area the size of the State of Kentucky.

During both of these famines parents found it necessary to sell their daughters, not only to obtain food for themselves, but in order that the children might not starve. They were usually sold to wealthy families, in which they became slave girls. Early in the period of distress girls of 10 to 15 years of age brought as much as $20 each; but when the food shortage was most severe the customary quotation in the slave market was 60 cents each, while in one instance a father is known to have accepted 14 cents and two bowls of rice in exchange for his child.

No other race is as docile as the Chinese in times of famine. Their resignation in the face of calamity is amazing. For instance, in the food shortage of 1906-1907 a starving army of 300,000 peasants camped beneath the walls of the city of Tsinkiangpu. The grain warehouses of the town, a place of 200,000 inhabitants, were overflowing with wheat, maize, and rice, and these supplies were constantly on display; yet there were no riots. The thousands outside the walls sat themselves down to die, while those within continued to transact the ordinary affairs of every-day life.

HUNGER AND THE RUSSIAN PEASANT

Next to the proletariat of India and China, the Russian peasant feels the pinch of poverty and hunger more keenly and more frequently than any other citizen on earth.

One of the earliest famines in Russia of which there is any definite record was that of 1600, which continued for three years, with a death toll of 500,000 peasants. Cats, dogs, and rats were eaten; the strong overcame the weak, and in the shambles of the public markets human flesh was sold. Multitudes of the dead were found with their mouths stuffed with straw.

Three Russian famines of comparatively recent date were among the most severe in the history of the country. They occurred in 1891, 1906, and 1911. During the ten years following the first of these periods of dearth the government allotted nearly $125,000,000 for relief work, but the sums were not always judiciously expended.

In 1906 the government gave 40 pounds of flour a month to all persons under 18 and over 59 years of age. All peasants between those ages and infants under one year of age received no allowance, and it became necessary for the younger and older members of the family to share their bare pittance with those for whom no provision was made. The suffering was intense and the mortality exceedingly heavy, but the available statistics are not wholly reliable.

The famine of 1911 extended over one-third of the area of the empire in Europe and affected more or less directly 30,000,000 people, while 8,000,000 were reduced to starvation. Weeds, the bark of trees, and bitter bread made from acorns constituted the chief diet for the destitute. This was unquestionably the most wide-spread and most severe famine that has befallen a European nation in modern times.

Both North and South America have been happily ignorant of extensive famines since the days of Columbus. There is a more or less apocryphal account of a great drought in Mexico in the year 1051, which caused the Toltecs to migrate, and in 1877 a scarcity of rain exposed 200,000 people in the northern provinces of Brazil to suffering; but with these exceptions the pinch of hunger in the Western Hemisphere has been felt from time to time in restricted areas only.

From this kaleidoscopic picture of suffering undergone during some of the most direful periods of world history it is apparent that there is nothing grandiose or heroic about death from starvation; neither is there glory to be gained, nor medals of honor or military crosses to be won in the battle for food. The casualties in the struggle are enormous, the compensation nil. No monuments are raised to the victims, no pensions provided for decrepit survivors. The suffering of those who succumb is pitiful beyond description, and the individual's anguish inevitably is intensified by the necessity of witnessing the agony of his loved ones who perish with him.

AMERICA'S TASK

To allay the pangs of world hunger and to banish famine from the earth is America's task and her determination.

Early last spring, when it became evident that all Europe would be largely dependent upon the United States for its food during the coming autumn and winter, an appeal was issued to the American people to utilize every available acre of ground in the production of foodstuffs. Farmers were urged to increase the yield of their fields by employing every agency of science and industry; dwellers in towns and cities were asked to plant vegetables in their garden plots; those who had no ground on which to produce foodstuffs were enlisted in the cause when they agreed to limit to their necessity the consumption of food.

But the object is only half achieved.

Having grown the foodstuffs, it is imperative that all practical means be employed to gather and preserve the fruits of the soil and of man's labor. These "bumper" crops of vegetables, raised in places which formerly were unproductive, can play no part in feeding stricken Europe unless they supply our own needs, thus releasing non-perishable grains for exportation.

THE ALLIES' NEEDS AND AMERICA'S RESOURCES

It is estimated that the Entente Allies will require 550,000,000 bushels of wheat from America this year, if the efficiency of their armies on the battle fronts is to remain unimpaired and if the civilian populations of France, England, and Italy are to be maintained in full bodily vigor, in order that they may produce the munitions and supplies essential to the successful prosecution of the war against Germany.

If the United States should consume its normal amount of grain, the quantity available for export from the 1917 harvest would fall short of the requirements abroad by 250,000,000 bushels. But this deficit can be made good, without serious privation to Americans, by the exercise of economy, thrift, and ingenuity—economy, in avoiding all waste; thrift, in gathering the vegetables which have been produced in such abundance this summer, and ingenuity in preserving, curing, canning, and drying for winter use all the perishable foodstuffs and fruits not required for immediate consumption.

The goal in this great campaign against waste in America is the safeguarding of all humanity against the suffering and the social and moral degradation which a world-wide famine would entail.

The American Government is earnestly enlisted in this supreme effort, its food administration bureau having taken over the large problems of price control and regulation of the exportation of foodstuffs; but the essential, the vital problem of food conservation remains the responsibility of each household.

Only by the sacrifice which the individual American makes will the welfare of another individual across the Atlantic be assured. Never before in so literal a sense is each man in this country the surety and the keeper of his brother abroad.

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THE NATIONAL GEOGRAPHIC MAGAZINE

RUSSIA FROM WITHIN

Her War of Yesterday, Today, and Tomorrow

BY STANLEY WASHBURN

FOR THREE YEARS SPECIAL CORRESPONDENT WITH THE RUSSIAN ARMIES

NOW that the United States of America is committed to the prosecution of the great war to its final conclusion in every respect as deeply as are the other Allies, it is of paramount importance that the American people have as full and complete an understanding as possible of all of the factors in the war which make for final victory.

Russia with her great front, which, including Roumania, extends from the Baltic to the Black Sea, and which today is detaining somewhere between two and three million enemy troops, is such an important part of the whole theater of operations that what is going on in Russia becomes of the most vital interest to all of the Allies, and perhaps to the United States more than any of the others.

In the final analysis the defeat and elimination of Russia would mean that ultimately the vacancy made by the absence of her troops on the eastern front would have to be filled by substituting American troops on the French or some other front where pressure might be brought against the forces of the Central Powers.

It would be folly to minimize the dangers of the present situation in Europe; but equally is it criminal and harmful for us to magnify these dangers by the unintelligent acceptance by press and people of this country and of the countries of the Allies of rumors of disaster and stories of a pessimistic nature about Russia and her future.

It is, of course, stupid at present to attempt to prophesy what is going to happen in Russia; but it is legitimate to trace briefly what has happened in the past in Russia, and from the precedence of her history and the knowledge of the present in some measure gauge an estimate of the future.

UNFAIR TO JUDGE RUSSIA BY DAY-TO-DAY EVENTS

In all war situations, both at the front and in the political centers, one must exercise the greatest possible restraint in making any day-to-day judgments. So vast are the political and military changes that occur almost overnight in all of the warring countries that one must guard against any conclusions save those based on fundamental elements gathered over long periods and attuned to the perspective of the war as a whole and to what we know of the detailed history of the armies and people engaged therein, not for the last few months, but for the entire length of the war to date. This perspective is more necessary in judging Russia than in forming opinions of any

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COMRADES IN A STRANGE LAND

General Hugh L. Scott, Chief of Staff of the United States Army and a member of the American Mission to Russia, surrounded by privates of the Russian Army. In the new European republic the campaign service hat is unknown; officers and enlisted men alike wear military caps. During the visit of the Mission the orderlies of the American officers were instructed to wear caps also, in order to establish their military status.

of the other nations. It is as unfair and misleading to judge Russia and the Russian people and their part in the war from what is going on from day to day in the new republic as it would be to judge the mentality of an individual who, having undergone a long and serious operation, is just coming out from ether.

Before we can fairly judge the Russians at all we must wipe from our minds the daily news, and with impartial vision carefully weigh the knowledge and experience which we have of Russia in character, not only in the past three years, but from her history as a whole. We must then, as far as we can, understand the Russian point of view of today; try to realize what the situation is from this people's standpoint and what capacity they have of acting other than they are now doing. Then, knowing as we do certain definite factors, we can judge for ourselves what we may anticipate from Russia in the future.

In an article in the GEOGRAPHIC MAGAZINE for April, I made some reference to Russia in the war and her contribution. In order that we may fully appreciate what she has already done and the extent to which the Russian people have already, irrespective of the future, earned the gratitude of all of the Allies, it seems worth while briefly to recapitulate her achievements.

WHEN THE FATE OF EUROPE HUNG IN THE BALANCE

In August, 1914, when Paris was in danger, the Russians almost overnight threw an army into East Prussia, which moved with such success that Berlin was flooded with refugees fleeing before the Cossacks. At a moment when the fate of Europe seemed to hang on the operations in the West, the German high command detached six army corps (240,000 men) from the armies on the western front and dispatched them against the

Russians. Ten days later the French and English checked the Germans on the Marne. The Germans sent to East Prussia inflicted a defeat on Russia which cost the latter 165,000 men. But Paris was saved. Later in the year, when the Germans were driving on Calais and England, another Russian sortie through Poland was launched. Between November 1 and December 15 nearly sixteen German army corps were detached from other operations and sent against Russia. Again there were retirements in the East, but again the Allies profited in the West, for the Germans did not take Calais and England was not threatened from that quarter.

Operations against Russia occupied the Germans from December, 1914, to April, 1915. The troops forming these contingents represented forces which might otherwise have been attacking in the West. In the spring of 1915 Russian advances in Bukovina and Galicia so threatened the stability of Austria and Hungary that the Germans were obliged to devote their entire summer's campaign to reëstablishing the Austrian morale and driving the Russians back. To do this required between 35 and 40 German army corps, not to speak of depot troops to the extent of perhaps half a million sent to replace losses.

The world looked upon 1915 as a year of Russian disasters; but too many superficial observers forget that during all that summer the surplus which represents the difference between the capacity to resist and the capacity to attack was operating all that time against the Russian army. The result was that England and France had almost one whole year in which to beat their plows into swords and their untrained manhood into soldiers. The British and French armies and various offensives of 1916 and 1917 are the direct outcome of Russia's contributions of the preceding year. It is clear, then, that the Russian sacrifices of 1915 have been almost as potent in their effects on the world situation as was the battle of the Marne significant in the campaign of 1914.

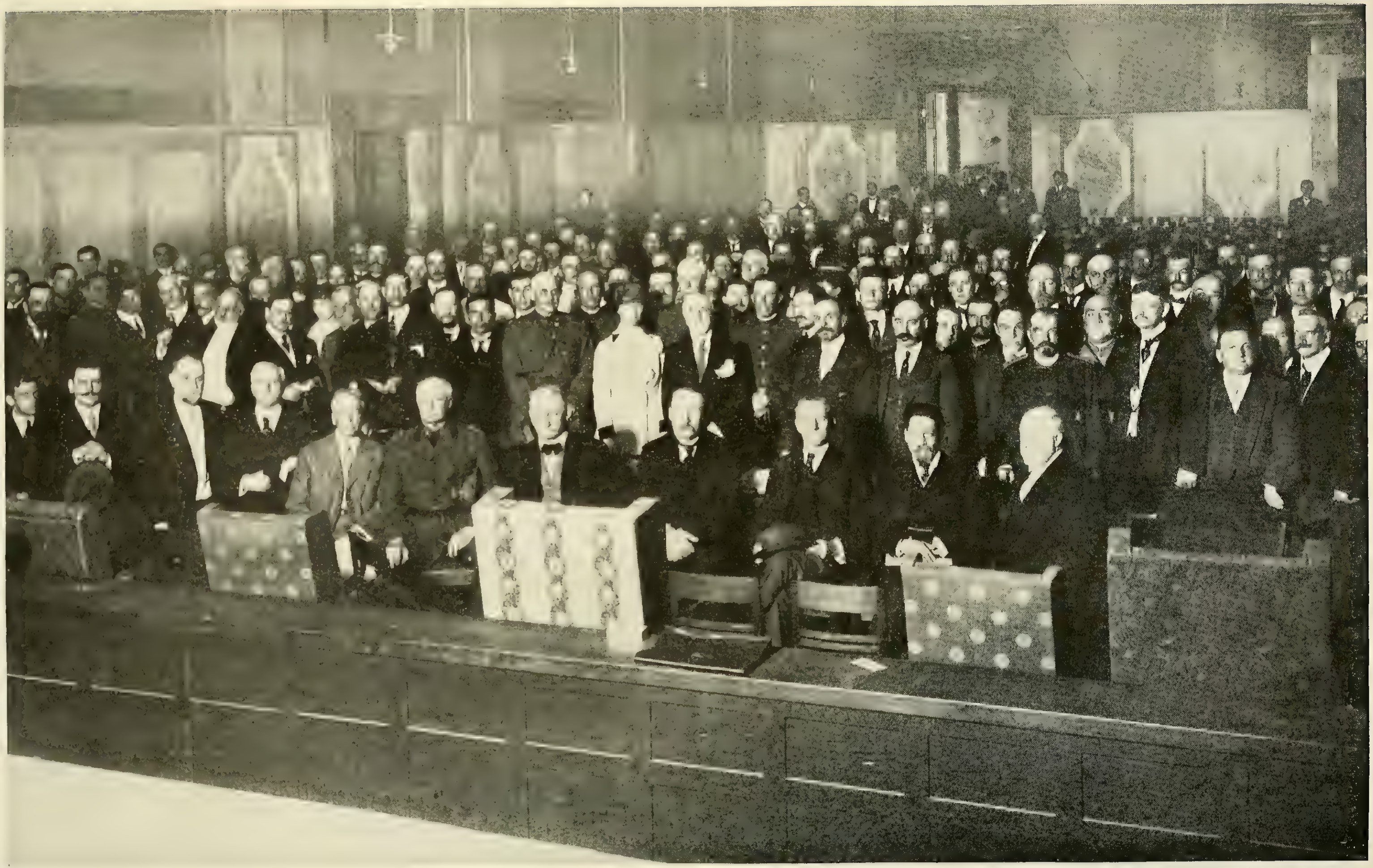
The Russian offensive of 1916, in which Brusilloff captured nearly half a million enemy prisoners and 500 guns, again destroyed the initiative of the enemy and relieved pressure on the Italian front. The contribution of Roumania, disastrous as it has proved to that unfortunate little country, diverted to the south, at a time when the Germans would otherwise have had them available for attacking England or France, no less and perhaps more than 30 German divisions.

RUSSIA HAS EARNED WESTERN ALLIES' UNDYING GRATITUDE

Let the fair-minded student carefully weigh all these facts and ask himself whether or not Russia has in the first three years earned the undying gratitude of her partners in the West. Before he presumes to sit in judgment on Russia of today let him consider what this contribution has cost the East during the last three years. It is difficult to estimate exactly, but it is perhaps not far from the facts to say that there have been called up in the past three years in Russia between 12,000,000 and 14,000,000 men. Probably 7,000,000 can be charged off as permanently ineffective through death, wounds, disease, and lost as prisoners to the enemy. If we allow three members in the family of each, directly affected, we have 21,000,000 civilians upon whom the burden of war has fallen with crushing effect. Add to this number the 15,000,000 refugees who have been driven into the heart of Russia by German invasions, and include the persons who have sustained serious losses consequent to the war. The total comes to the stupendous aggregate of 43,000,000, a number almost equal to the population of the United Kingdom or, to bring it nearer home, more than one-third the population of the United States. Such is the price that Russia has so bravely paid to date in her effort to coöperate with the Allies!

OUR MENTAL YARDSTICK

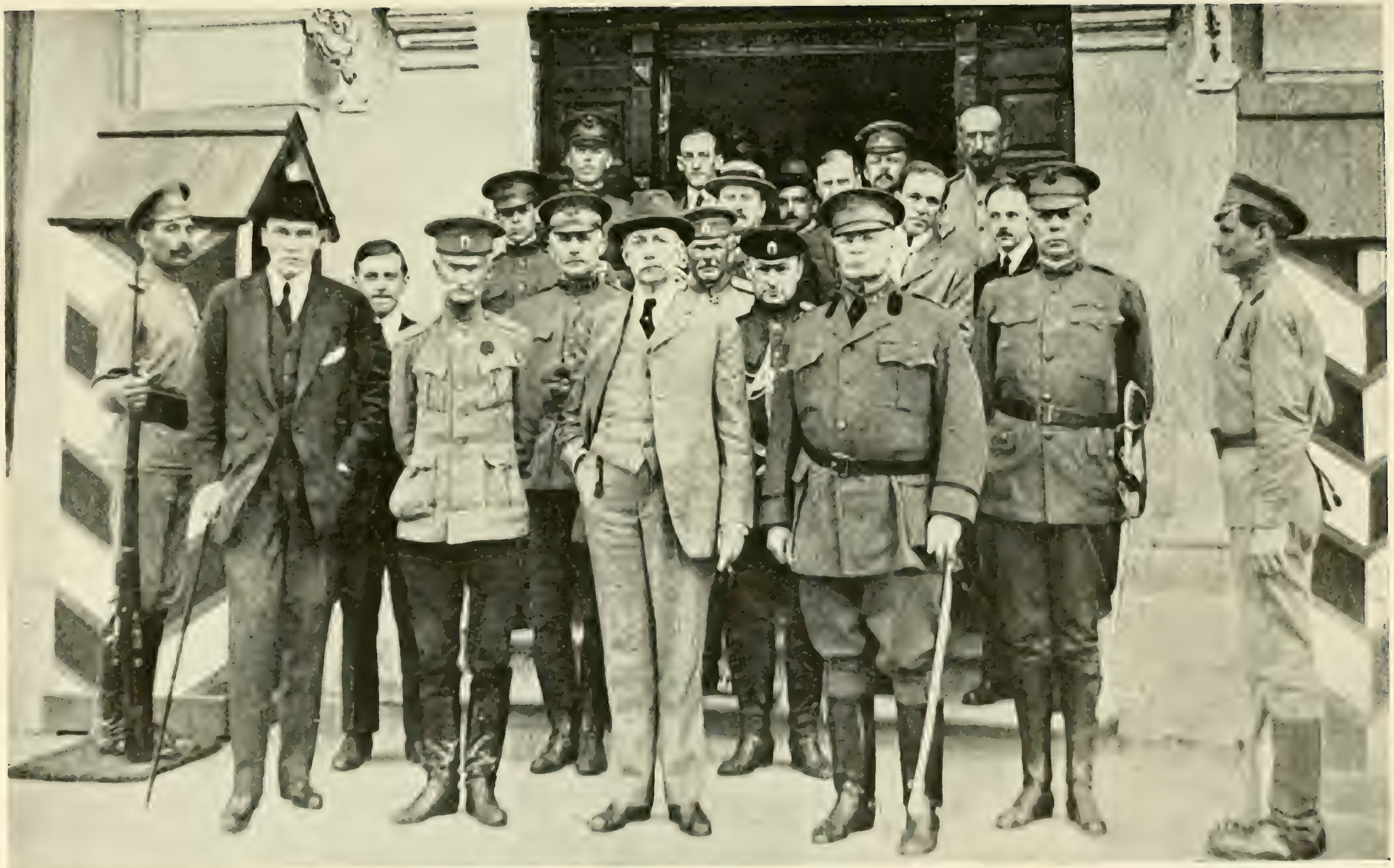
America has not yet begun to shed her blood in the cause. Perhaps it would be fair for Americans to review in their minds what Russia has done and suffered before they in any way judge the Russian situation of today. Russia has made



Photograph courtesy of General Hugh L. Scott

MEMBERS OF THE AMERICAN MISSION TO RUSSIA AND THE BOARD OF TRADE OF PETROGRAD

During the visit of the Mission to the new republic numerous meetings and receptions similar to this were held, and it was at such gatherings that the Americans made known to their Russian allies the reasons which actuated the older republic to enter the struggle against autocracy. In the front row Major General Scott, Ambassador Francis, and Elihu Root, chairman of the Mission, are easily recognized.



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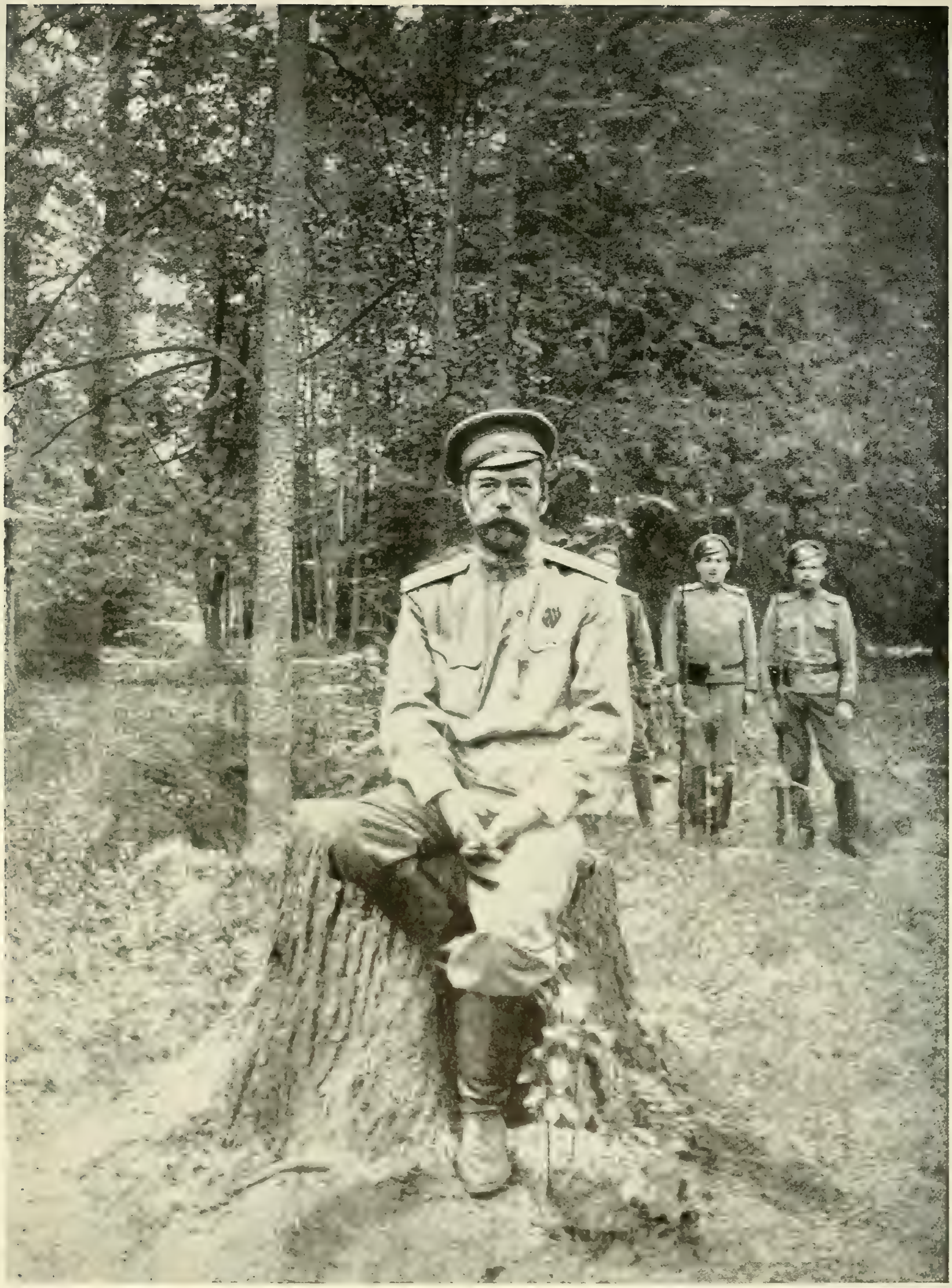
REPRESENTATIVES OF TWO FREE AND SOVEREIGN PEOPLES

From left to right: M. I. Terestchenko, Russian Minister of Foreign Affairs; General Alexis Brusilloff, at the time Commander-in-Chief of the Russian Army; Elihu Root, head of the American Mission to Russia; Major General Hugh L. Scott, and Brigadier General R. E. L. Michie, of the American Army.



Courtesy of Illustrated London News

"FAREWELL! A LONG FAREWELL TO ALL MY GREATNESS!"

Closely guarded, Nicholas Romanoff, the ex-Emperor of Russia, is seen seated on the stump of a tree felled by his own hands. Before his removal to Siberia the dethroned monarch, surrounded by his wife and children, resided comfortably, under military observation, in the palace of Tsarskoe Selo. A Paris correspondent writes: "At meals with his children, or some specially invited guest, Nicholas is always in pleasant humor and never makes the slightest allusion to his downfall." To one of his associates in captivity, however, he is said to have observed, "I am hardly less free now than formerly, for have I not been a prisoner all my life?"

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FUR AND FEATHERS: MASCOTS OF THE HEROIC RUSSIAN WOMEN'S "BATTALION OF DEATH"

The advent of the woman soldier fighting for liberty in the armies of New Russia has been one of the most inspiring developments of the war since the overthrow of the Romanoff dynasty. These young women patriots have already set their brothers in arms a magnificent example in loyalty, obedience to military authority, and bravery under fire.

these sacrifices and is, as a matter of fact, still fighting, while America has not yet begun. It is my purely personal point of view that the Russians have by their contribution saved Europe, even if they fight no more, though there is reason to believe that they will continue, in spite of losses and political confusion, to battle until the end.

We have, however, reached a point where the Allies can win without Russia. Her staying in the war represents a saving in time and a saving of human life and treasure rather than any difference in the final issue. The collapse of Russia in 1915 or 1916 might have lost the war; but that moment has, in my judgment, passed. Let us, therefore, recognize the services of Russia in the years agone and appreciate them before we consider the situation of the present.

In order to realize what the Russians are now going through politically, it is necessary to understand the average point of view of their 180,000,000 odd population. It must be understood that of these millions the vast majority are of the peasant class and can neither read nor write. At the beginning of the conflict they knew little or nothing of the issues of the war, but came to the colors in the slow, unemotional, and negative way that they always go to war. It is foolish to say that the war was popular in Russia. No war is ever really popular in any country.

"NOT WILLING TO GO, YET THEY WENT WILLINGLY"

Perhaps the attitude of the average Russian is illustrated by the remark a peasant made to me when asked if many had gone from his village to the war. "Nearly all of military age," he replied. "And were they glad to go to the war?" I asked him. "Who would go to war

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RUSSIAN WOMEN SOLDIERS AT WORK

Although they have recently acquired skill in firing a rifle and attacking with a bayonet, these Russian girls of the "Battalion of Death" have not forgotten how to manipulate pots and pans.

gladly?" he asked mildly. "Well, then," I queried, "were they willing to go?"

For a time he hesitated and then said, "They were not willing to go, yet they went willingly," which exactly represents the attitude of the Russians toward the war at its beginning. For the first six months they were fighting a battle for the Tsar between his government and that of the Kaiser. After that the war shifted to a combat between the German army and the Russian army, for the peasant of the East took grave exception to the Teutonic method of conducting warfare.

Day by day and month by month, as wounded went home to tell of German frightfulness, and as refugees by the million circulated through the villages of Russia, the feeling against the Germans became more and more bitter and the desire in the hearts of the peasants to see them beaten at all costs became more and more profound. It has taken perhaps two years for this feeling to develop among the peasants of Russia, and it is, I sincerely believe, the feeling throughout the nation, or it certainly was prior to the revolution, before the crafty German propaganda came to befog the issue in the untutored peasant mind.

During these early days of the war an efficient government on the part of the old régime would have made the power of the Tsar, as well as his personal popularity, unshakable. If ever a man missed the chance of being called "The Great," it is the unfortunate Nicholas.

But while the wish of the people to continue the war was steadily growing up throughout Russia, the government itself was sowing the seeds of its own undoing. Every one has been amazed at the suddenness of the collapse of the old régime; but such a collapse was logical and inevitable sooner or later. The Emperor's government was undermined by the complete incompetence of its administration. In time of peace it might have gone on in the same hit-and-miss way for years and the peasants would have taken but a meager interest, as few would have felt directly the results of mismanagement in any greater measure than normally.

Wide-spread revolutions in Russia have been difficult, because it has been impossible to reach all of the people at the same time on the same issue. The war, however, did reach all the people at the same time. After a year or two nearly every individual in Russia had been directly or indirectly touched in some way. The soldiers at the front knew that they had no ammunition and few rifles in 1915, and they knew that this shortage was due to the bad management of the government. The people knew that the railroads were not operating properly, and that, as a result, many of them were obliged to go without food and fuel during the winter months. This, too, was charged to the government of the Tsar. The scandals in regard to the monk Rasputin became common property, and by the fall of 1916 all of Russia, save the bureaucracy, favored members of the autocracy, and the pro-Germans, was of the fixed conviction that the people's troubles were due to this incompetence.

THE MOST REMARKABLE REVOLUTION IN HISTORY

Step by step this universal opinion had developed in Russia until it had become practically unanimous in cities, in the country, and in the army. There was no wide-spread cry for revolution, no demand for a new Tsar, nor any national demand for the cessation of the war. All the people wanted was a decent government, which would continue the war efficiently and in the interim enable them to live somehow or other.

There has never been such a remarkable revolution in history. It has not represented plot and intrigue and ambitions of individuals. It represented merely the united desire of 180,000,000 people to carry on a war in which they believed, with the minimum of misery and with the maximum of competence. Through stupidity in some quarters and intrigue and treachery in others, the Tsar steadfastly refused to make the concessions required to conduct the war and permit the people to live. Pressure in the Duma became acute. The Emperor ordered it dissolved. It refused to dissolve. Troops were called out to restore order in Petrograd, where bread riots had started a chaotic situation. The troops, being but boys three or four months in uniform, were of the people in opinion and declined to shoot. Authority ceased, and the Emperor, having nothing behind him, accepted the ultimatum that he abdicate.

Practically, without any serious convulsion, the Empire disappeared. I suppose one must call it revolution, but it came so easily that it is hard to believe it such. The change came like a ripe apple falling from a tree. A few days of killing and hunting down policemen who were loyal to the government marked the end of any serious disorders in Petrograd. The rest of Russia quietly accepted what Petrograd had done. The old order had disappeared overnight. Now let us consider what remained.

When the bread riots started there was apparently no party or class in Russia that was planning for the immediate overthrow of the Tsar; all that any one wanted was a more liberal and efficient government. Even the leaders of the Duma did not dream that the change could be brought about without any effective resistance on the part of the old régime. It all came in a day or two, and the Provisional Government and its committee of twelve suddenly found itself in control of the destinies of the former Empire.

Photograph by C. S. Stilwell

A BREAD LINE IN PETROGRAD

Russia's food shortage difficulties during the last nine months have been brought about not by the failure of wheat crops or a shortage in the grain markets, but by disorganized transportation facilities. It was an army of hungry revolutionists which overthrew the Romanoff dynasty.

THE RUSSIAN PEASANT'S FUNDAMENTAL CONCEPT OF THE STATE

Now, in all of the centuries past there have been just two ideas in Russia which, in the minds of the peasants, have stood for the State. They were the Tsar and the Church, of which the Emperor was the head. The psychology of the Russian of the lower class is extremely simple. It is necessary for the Russian to see in order to appreciate anything. The men who created and built up the Greek Orthodox Church in Russia no doubt clearly realized this phase of the Slav mind, and hence that religion has been founded on the worship of God through the pictures of Christ, the Virgin Mary, and the saints. The direct conception of an abstract idea seems hardly to exist in Russia. Hence the Church provides the almost innumerable list of saints whose pictures, or ikons, are the mediums through which the peasant mind conceives the idea of his God.

As travelers in Russia will recall, there is in almost every public room some ikon, and all over Russia the mind of the people has in this way been focused. In an analogous way, the idea of the State was expressed to the people in the person of the Tsar and in the institution of the Church. Pictures of the Emperor were as common as the ikons and exercised almost the same function toward the government as the religious pictures did toward the Church. It is clear, then, that the Emperor and the Greek Church represented the keystones of the arch of government in Russia.

In a day, and with the country entirely unprepared in thought for any such change, the Emperor ceased to exist, and the Church as a political influence was eliminated. As far as the millions of common people in Russia were concerned, the State as a whole practically ceased to exist. They had never thought of the national idea save in terms of Church and Tsar, and with both removed their minds lapsed into immediate solution where any tangible conception of the State was for the time being difficult, if not impossible.

It is obvious that any government to be strong and effective over any length of time must represent the combined strength of the individuals that compose it. In a week, Russia, as far as the opinion of the bulk of her people was con-

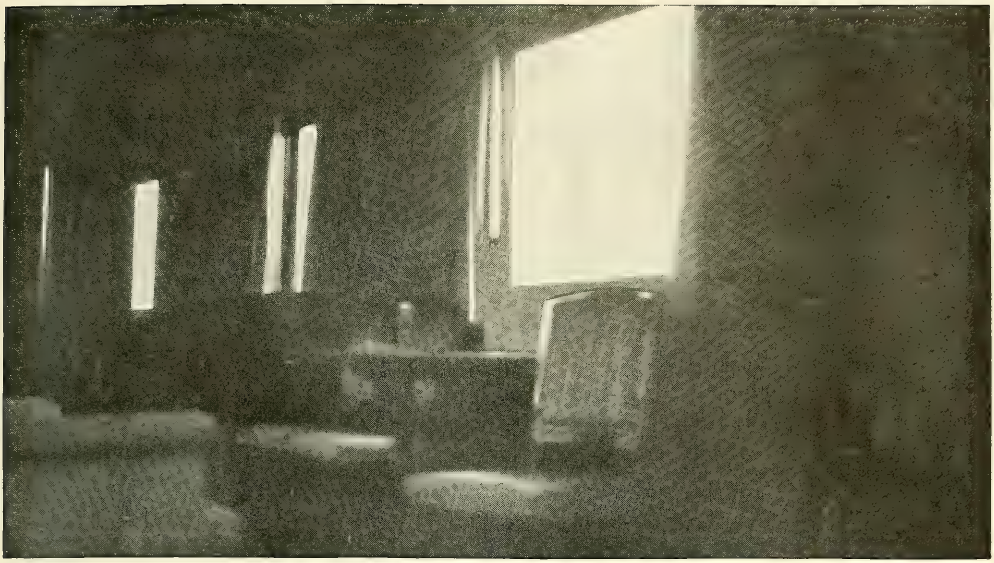


TABLE UPON WHICH NICHOLAS II SIGNED HIS ABDICATION

In the years to come this bit of furniture in the imperial Russian railway coach will be of as great historic interest as the table shown to visitors at Fontainebleau, upon which Napoleon signed his abdication in favor of his son, the infant King of Rome, 103 years ago, and then (so the guide explains to the credulous), in a fit of rage, threw the pen upon the table, leaving the great blotch of ink on the top.

cerned, was in a state of complete chaos. The masses did not in the least realize the significance of what had taken place, nor were they able to express themselves or their genius through the new medium which was suddenly established.

The committee of the Duma, which took charge of the Provisional Government, faced the most difficult problem which any group of men has ever encountered. It was their task to keep the war going while the minds and opinions of the people were readjusting themselves to an entirely new standard as to what the State actually was. Had there been no war under way, there is not the slightest doubt but that the problems would have been worked out without friction or disorders of any sort, for the people left to themselves would have gradually developed new and working institutions to fit their own needs.

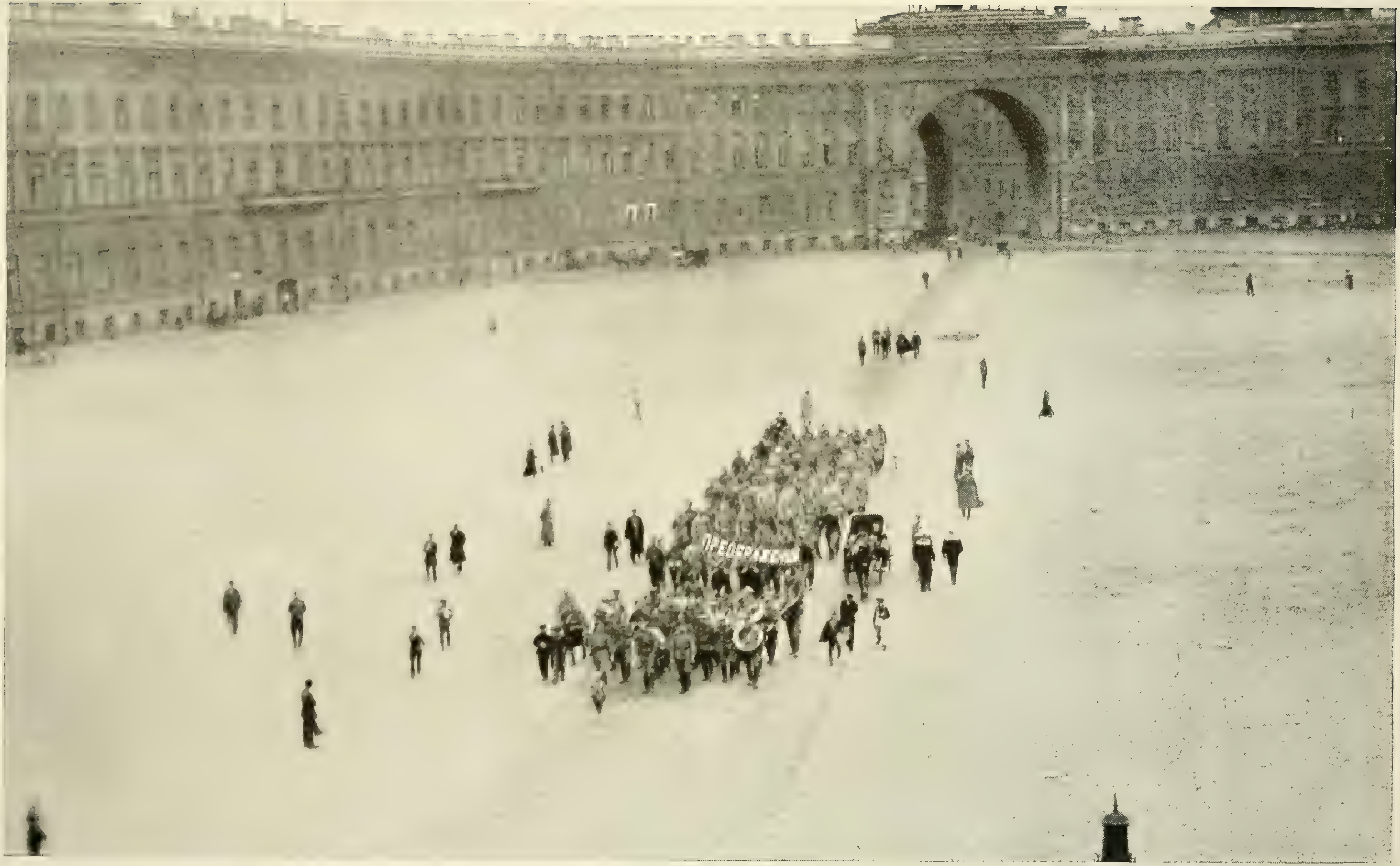
GERMANS QUICK TO PROFIT BY BREAKDOWN OF THE OLD ORDER

But the people were not left to themselves. The breakdown of the old order in Russia gave to the Germans the chance which they were quick to seize for their own profit.

In the first days of confusion thousands of German agents and spies swarmed through Russia, worked their way through the lines and began the hugest program of propaganda which the world has ever seen. It is difficult to say what the Germans have spent in Russia; but the figure which is accepted as being accurate in well-informed circles in Petrograd approximates 48,000,000 roubles since the revolution.

Almost at once parties were formed to attack the new government and to interfere in every way with the conduct of the war. Agitators from Germany openly preached peace at any price and circulated every form of malicious and insidious fallacy which could undermine the strength of the government.

There grew up in a somewhat obscure fashion in Petrograd the body known as the Council of Workingmen's and Soldiers' Delegates, which took upon itself the uninvited task of acting as critic of the new government. I have never heard by what authority this body exists; but as nearly as one can discover it grew from a small and informal body of men of all classes, anxious to help in the revolution, to a committee of above 2,500 in



Photograph by C. S. Stilwell

THE RUSSIAN WOMEN'S "BATTALION OF DEATH" RETURNING FROM SPECIAL SERVICES IN ST. ISAAC'S CATHEDRAL, WHERE THEY CONSECRATED THEIR LIVES TO THE CAUSE OF FREE RUSSIA

Photograph by C. S. Stilwell

GENERAL SCOTT, TWO SIKHS, AND A GROUP OF RUSSIAN SOLDIERS AT AN ASIATIC WAY-STATION ON THE TRANS-SIBERIAN RAILWAY

The character and the stamina of the American officer and of the Russian soldier are familiar to the world, but neither is the simple Sikh of the Punjab to be despised as a fighting entity. Inspired by a militant religion, he is acknowledged to be the finest soldier of the East. Hardy, brave, and obedient to discipline, he is said to be steady in victory and unyielding to the death in defeat. Note the large military caps worn by the Russian school-boys in the group.

number, which acquired such power and influence that it came to dominate the original committee of the Duma, the latter having adjourned and exerting no influence whatever on the situation. The Soldiers' and Workingmen's Delegates forced reorganizations in the government and at every crisis have directed the changes in the Ministry.

The great committee at once split into many groups, the most objectionable being that party of extreme radicals calling themselves the Maximalists or, as the Russians say, "Bolshevik." It is impossible and unfair to brand these people as German agents, but it is a safe assertion to state that they have always played the German game. From them have emanated all of the crazy ideas which have reduced Russia to confusion and destroyed the morale of the army. The Maximalists would have division of the lands, immediate cessation of the war, friendly relations with Germany, entire destruction of government, and in fact almost every form of radical idea that anywhere or at any time has preyed upon the civilized world.

These few at once created a split among the Socialists, the sounder ones going in support of the new government, while the old element continued to preach doctrines which, in any other time, would have been branded as sedition. This group, which has been making most of the trouble, has been reduced in strength until it now comprises probably less than 15 per cent of the whole body and can be discounted save for the damage already done.

KERENSKY THE POINT OF FOCUS ON WHICH TO RALLY

The coming to the fore of Kerensky has given the government a point of focus on which to rally, and it has now become a question as to whether or not the army at the front can maintain itself in being, as a whole, while the men at the rear with Kerensky organize the govern-

CHINESE OFFICIALS AT HARBIN WHO WELCOMED TO ASIATIC SOIL THE AMERICAN MISSION ON ITS WAY TO PETROGRAD

Photographs by C. S. Stilwell

BURYAT PRINCES ASSEMBLED TO GREET THE AMERICAN MISSION UPON ITS ARRIVAL IN MANCHURIA

A Mongolian race, residing in the Baikal Lake region, the Buryats long opposed the advent of the Russians; but in the closing years of the seventeenth century they finally submitted to their European overlords and are now considered among the most peaceful of Russian peoples.

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MILITARY MEMBERS OF THE AMERICAN MISSION TO RUSSIA IN THE APARTMENTS OF THE FORMER TSAR ON THE IMPERIAL TRAIN IN WHICH THEY TRAVELED FROM VLADIVOSTOK TO PETROGRAD

Seated at the left, beside the table on which Emperor Nicholas II signed his abdication of the Russian throne, is Brigadier General (then Colonel) William V. Judson. To his left is Major Stanley Washburn, for three years special correspondent with the Russian armies. The two officers seated on the divan are Major R. Le J. Parker and Major M. C. Kerth, American military observers detailed to Russia. Lieutenant Colonel Bentley Mott is standing and Captain E. Francis Riggs, also a military observer, is seated at the extreme right. Note the numerous handsome furnishings of the car. Among its permanent fixtures are twenty-seven thermometers, sixteen barometers, and eight clocks of elaborate design and beautiful workmanship.

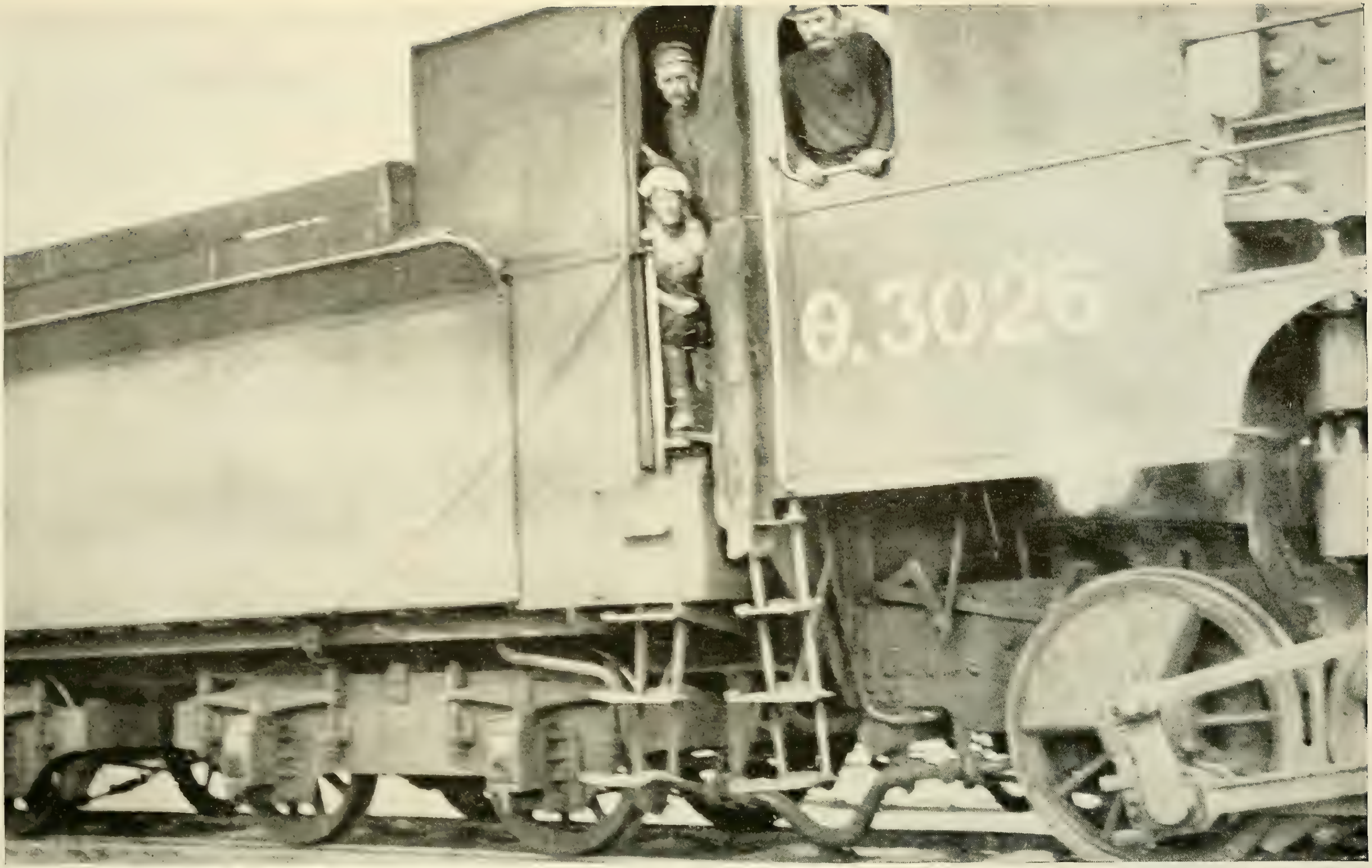
ment and restore internal conditions to the normal.

Russia in the past few months can be likened to a crab changing its shell. The crab is a perfectly healthy one, and given the opportunity unmolested it will surely and certainly grow a new and impervious shell. But in the interim the crab is in a delicate position. It is now the task of the army and the men rallying around Kerensky to keep the crab protected until the new shell has grown, when all danger will have passed in Russia.

Persons returning from Russia express great optimism as to the outcome for a sound and permanent democracy, and their judgment is perhaps based on the study of what the Russians have not done in this period of confusion rather than what they have done.

The situation in Russia since March has been one of the most remarkable in the world's history, and if any one has in the past felt apprehension of the Russian character as a world menace, the lesson of the last few months should forever dissipate it. Here we find an immense country suddenly told that there is no longer an Emperor, and that they are free.

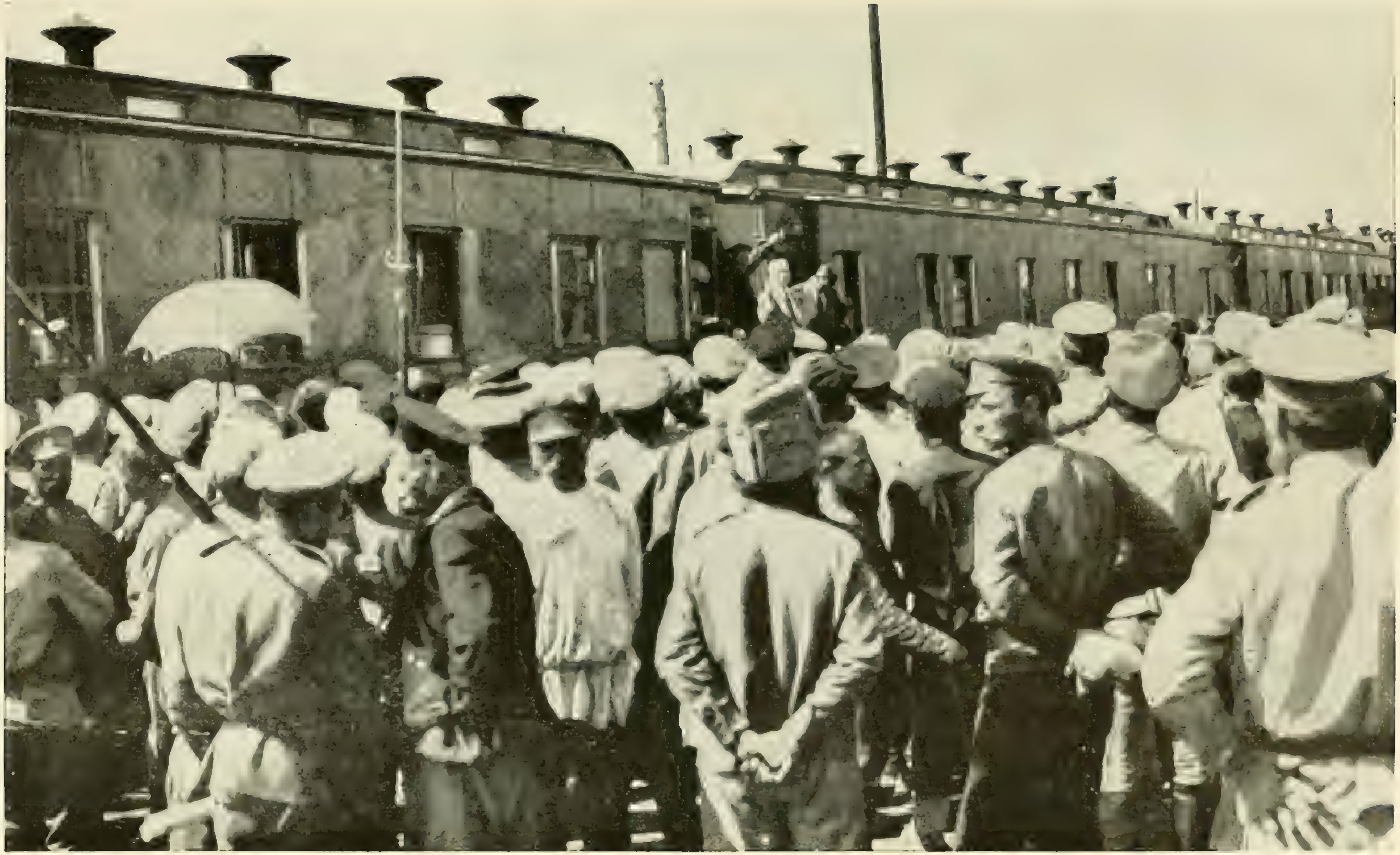
Now, freedom and liberty to the Russian peasants are taken literally. To the



Photograph by C. S. Stilwell

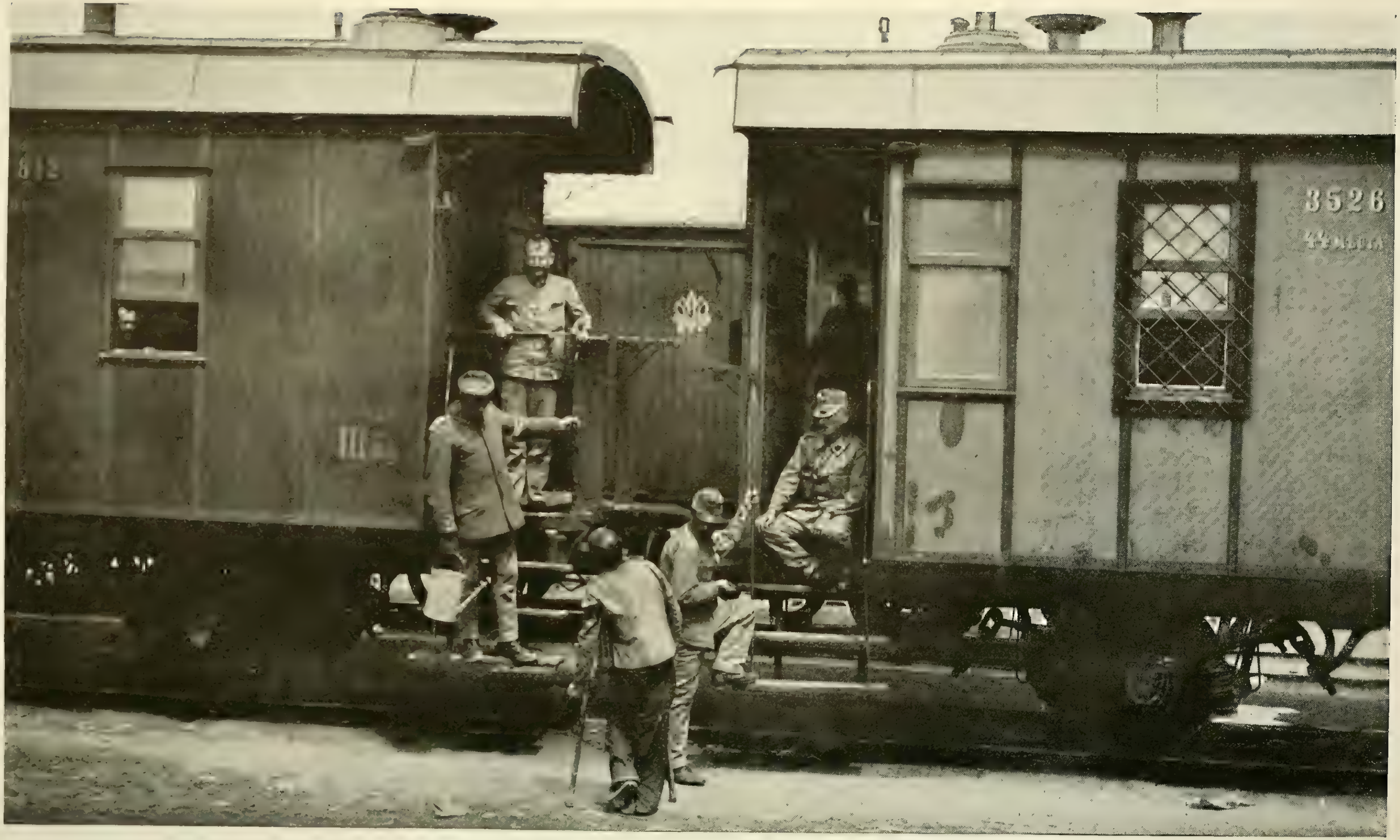
A RUSSIAN WOMAN SERVING AS AN ASSISTANT FIREMAN ON THE TRANS-SIBERIAN RAILWAY

Not only in the "Battalion of Death" is the Russian woman proving her devotion to her country and to the cause of liberty, but in many industrial activities is she assuming her share of the burden of keeping the armies supplied with munitions and provisions. By serving on the tender of a trans-Siberian locomotive this woman is proving herself a worthy disciple of her French and English sisters-in-war, who have taken the places of men needed in the trenches.



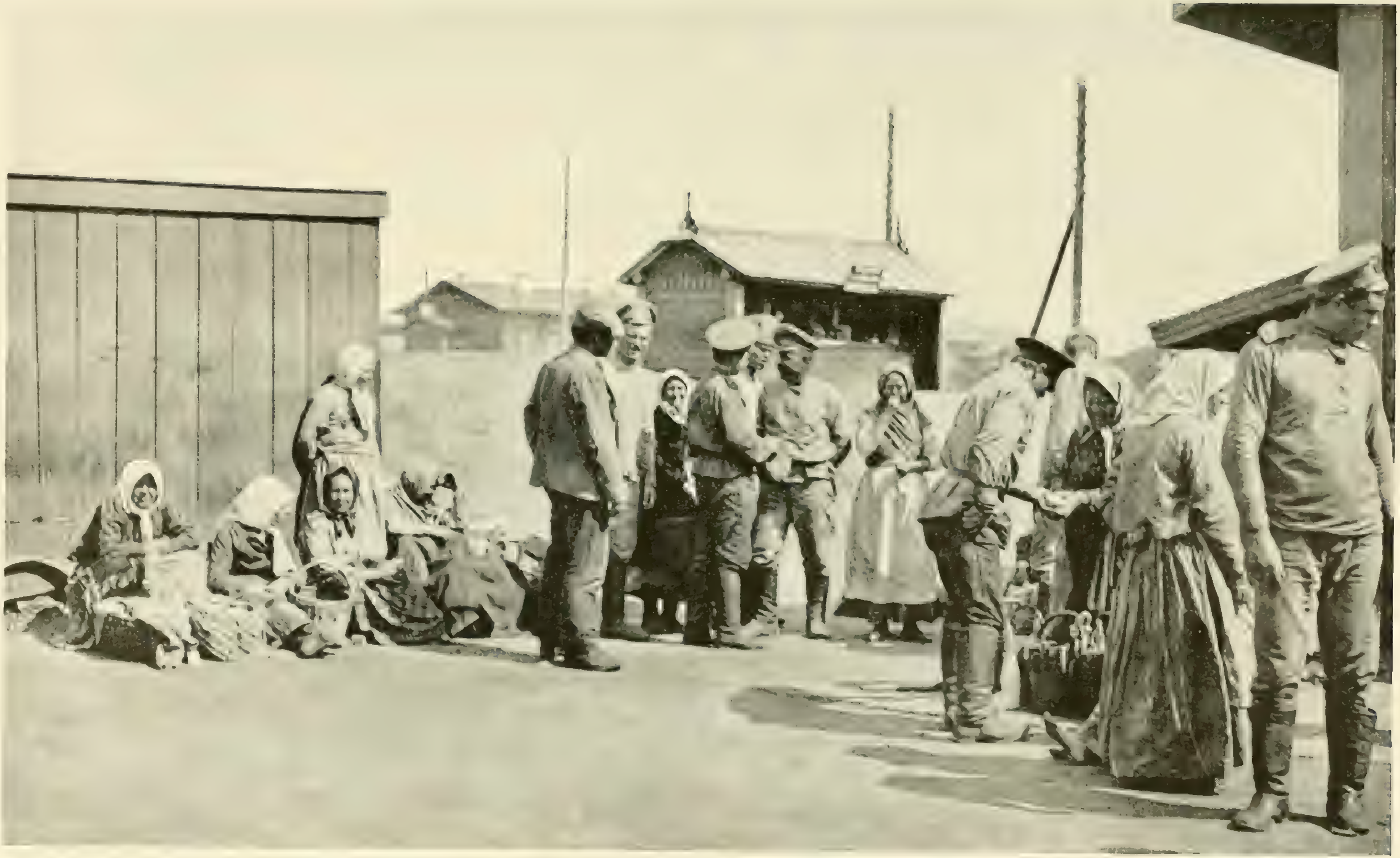
Photograph by C. S. Stilwell

SENATOR ROOT ADDRESSING SOLDIERS AT PERM



Photograph by C. S. Stilwell

GERMAN PRISONERS AT WORK ON TRANS-SIBERIAN RAILWAY



Photograph by C. S. Stilwell

STATION SCENE ON TRANS-SIBERIAN RAILWAY: PEASANT WOMEN SELLING FOOD

Photograph by C. S. Stilwell

AFTERNOON STATION SCENE: VYATKA

moujik, or peasant soldier, "freedom" means individual liberty in the most widely accepted sense rather than political liberty. It means to him that he is free to do exactly what he likes, to come and go as, when, and where he pleases; it means that the railroads, the street-cars, and the public property are free. Hence, the soldiers at once began to bask in this new freedom, and for months railroads and street-cars were black with troops in all parts of Russia, riding everywhere because they had, as they believed, the right to ride. The police vanished in a day, and citizens who were designated by bands on their arms and who were entirely unarmed became the guardians of the peace and order of the country.

SPEECHMAKING HAS BECOME THE NATIONAL PASTIME

Now mark what happened. Practically nothing. Liberty and freedom did not to the Russians represent any form of disorder or lawlessness whatever, and it is a safe venture to state that in European Russia there has been less crime and disorder than before the war.

The entire population has taken the summer off to celebrate their new liberty and to talk it over. Speech-making has become the national pastime. During the summer, when the nights have been short and one can read a paper at midnight, the discussion of public affairs has gone on day and night in the main streets of Petrograd. In a perfectly good-natured way the situation is discussed from every angle. The extraordinary part of the speech-making and the crowds is that all views are equally applauded. A pro-German orator will be greeted with loud cheers, while the man who mounts the barrel and denounces him will get an even greater ovation. One at last comes to the realization that the applause is not for sentiments expressed, but for the fact that there now exists the opportunity for free expression of opinion.

All summer long the Germans with their propaganda have been attacking this extremely vague opinion of the man in the street, using every method within their power to force him into the making of an independent peace. He is told that there are to be no annexations and no indemnities, and that further sacrifices

Photograph by C. S. Stilwell

TRAVEL ON THE TRANS-SIBERIAN RAILWAY

can yield him no profit. He is assured that the Germans are and always have been his real friends, and that they stand ready and willing to finance him and help him rebuild Russia. A thousand subtle measures are used to persuade him that England made the war and that he has fought it, and that the food crises in Russia are due to the British blockade. Again he is told that the Tsar made the war, and now that the Tsar is gone, there is no reason for him to continue in it.

From every angle and in every way his slow mind has been attacked by the Teuton influences to make the worse appear the better cause; and in spite of it all, and notwithstanding the losses and disasters and miseries of the past three years, the Russians have not made peace, their armies are still fighting, and their people, though confused, are still showing the inclination to hold on until the end.

At the front, the German influence was even more pernicious than it was at the base, for here the soldiers were allowed to fraternize with the enemy. Literature was prepared for them in Germany, printed in Russian, and passed between the lines. They were told that they had won their liberty and their freedom, and that the policy of their government was "no annexations and no indemnities," and then they were asked why they were fighting, a question difficult for the simple mind to answer.

Again the kindly Germans warned them that the lands of Russia were about to be distributed, and if they stayed in their trenches they would miss this distribution entirely, while the stay-at-homes got all the prizes; and still enough Russians remained in the trenches to offer a front 1,200 miles in length to the line of the enemy forces in the East.

THE GERMAN POLITICAL DRIVE A FAILURE

In the meantime, through the unwise orders relaxing discipline in the army, the morale of the Russian troops began slowly to deteriorate, and by this decrease in efficiency the position at the front became a serious one. Yet throughout there has been a background of solid common sense, for in spite of all that has happened, and all that the Germans have done in the way of propaganda, they have not achieved their purpose in their political drive on the Russian people any more than they achieved their purpose in their military drive of 1915.

The wonder is not that Russia failed

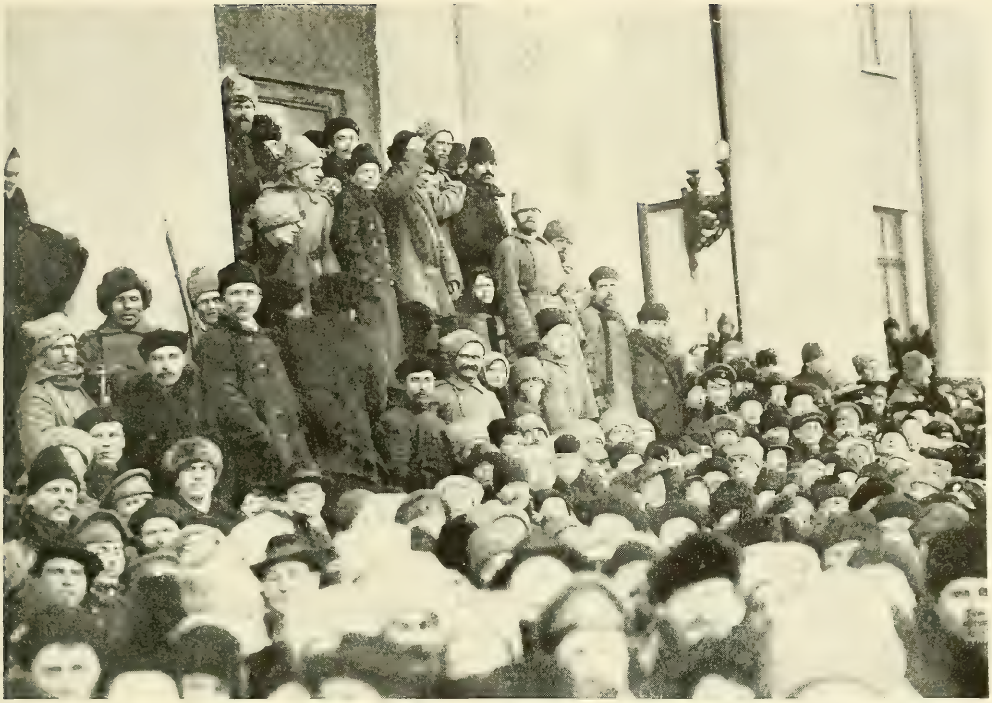
ELIHU ROOT LEAVING A CHURCH IN THE FAMOUS KREMLIN OF MOSCOW

The peculiar religious pictures on each side of the doorway are mural decorations characteristic of many of the sacred buildings of the Slavic Empire

Photograph by Paul Thompson

SOLDIERS OF THE REVOLUTION BRINGING IN A CAPTURED POLICEMAN OF THE OLD RÉGIME: PETROGRAD

"Practically without any serious convulsion the empire disappeared. The change came like a ripe apple falling from a tree. A few days of killing and hunting down policemen who were loyal to the government marked the end of any serious disorders in Petrograd. The rest of Russia quietly accepted what Petrograd had done."



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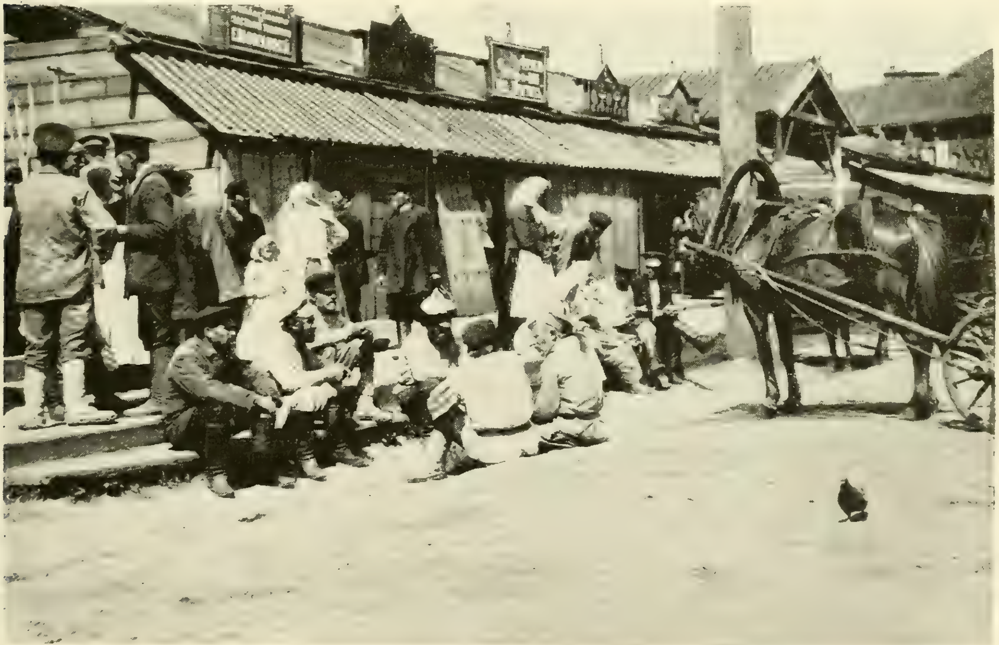
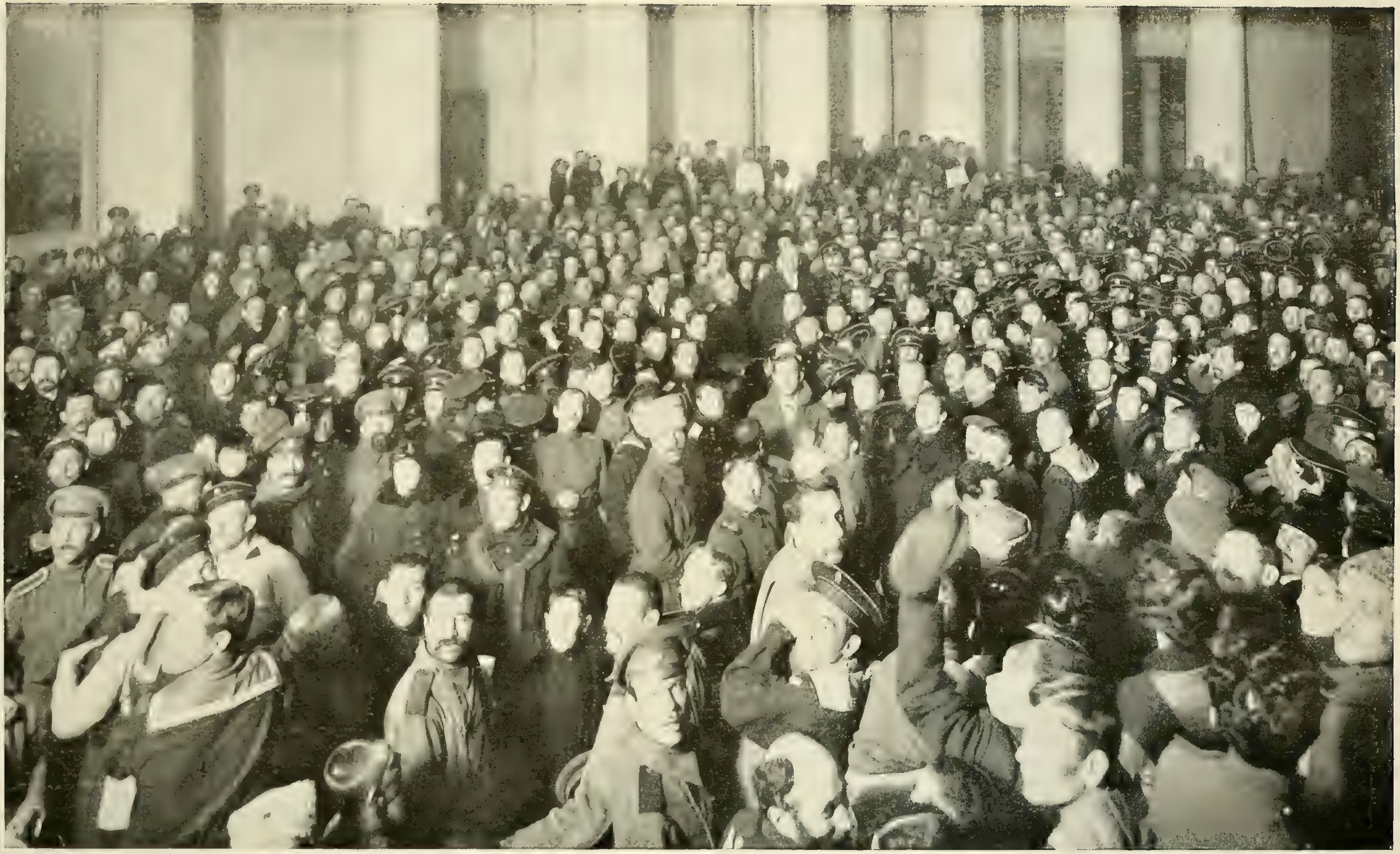
MEN AND WOMEN OF PETROGRAD WHO, WITHOUT RESORTING IN ANY MARKED DEGREE TO THE UNRESTRAINED VIOLENCE OF MOB RULE, OVERTHREW A CENTURIES-OLD DYNASTY AND BECAME FREE

Soldiers and civilians assembled before the Duma eagerly, but in orderly fashion, waiting to learn what would happen next in the course of the most amazing revolution the world has ever seen.



Photograph by C. S. Stilwell

HOLIDAY SCENE AT VYATKA



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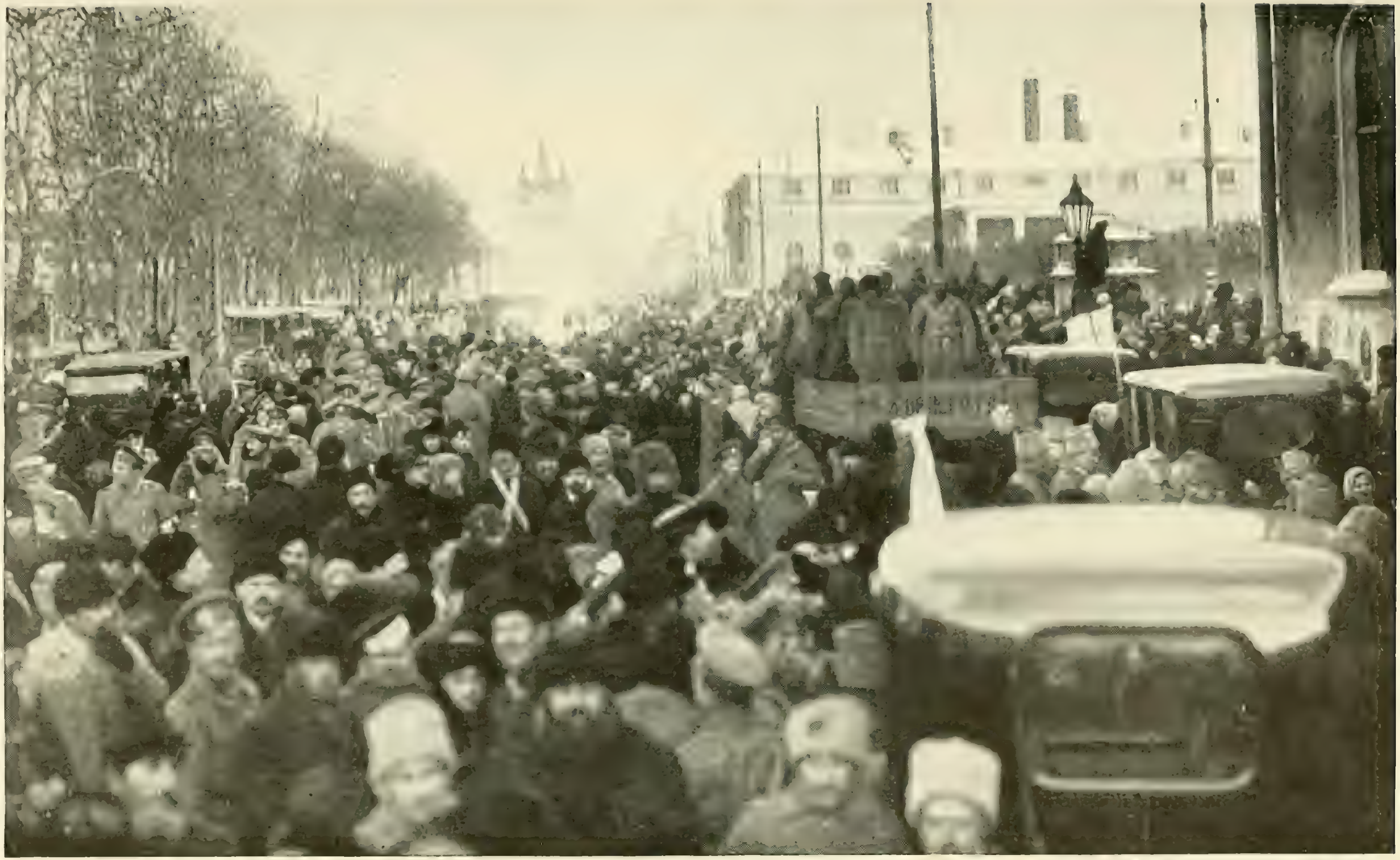
RUSSIAN SOLDIERS AND CIVILIANS IN THE DUMA HALL SHORTLY AFTER THE OVERTHROW OF THE MONARCHY

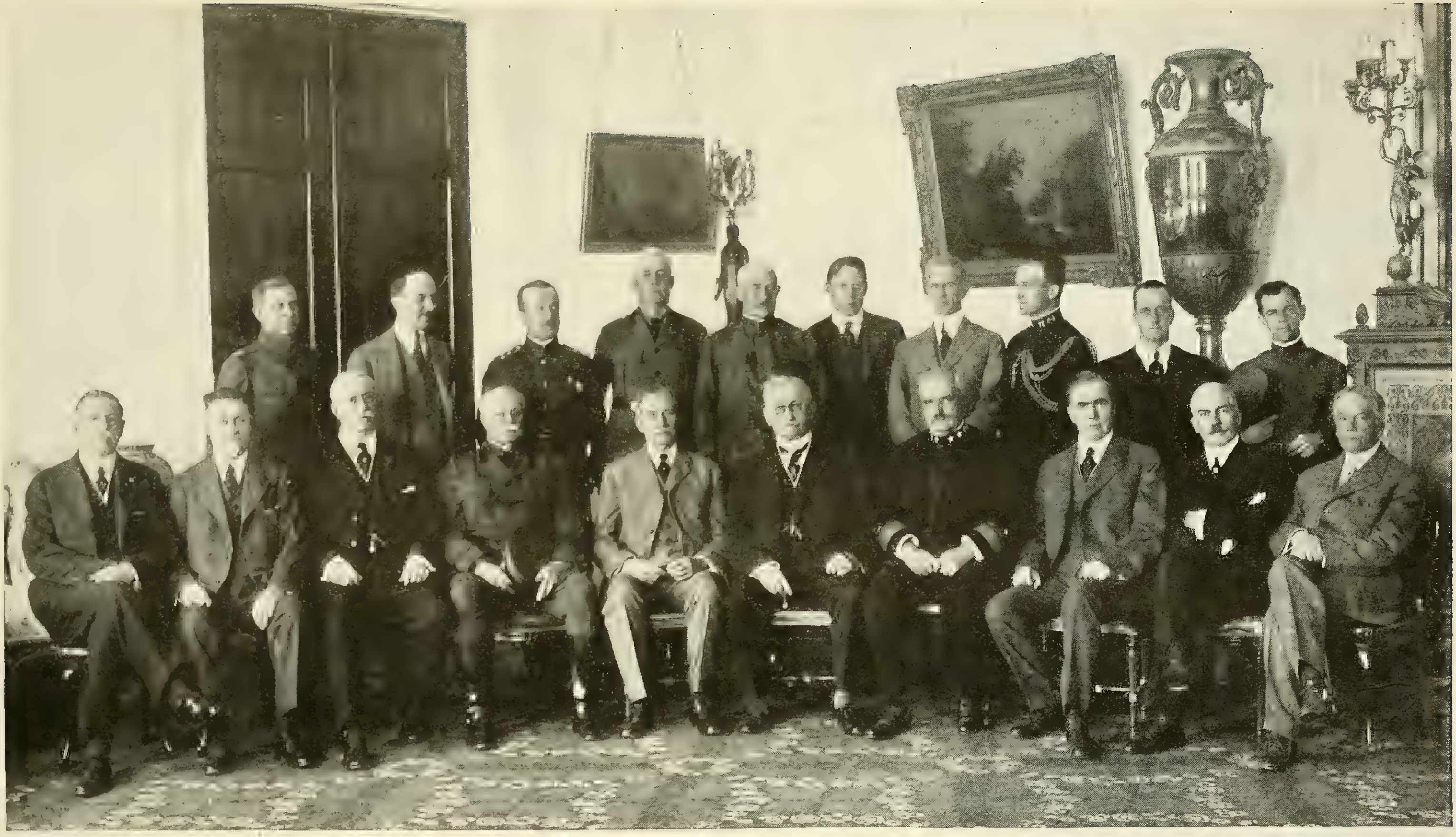
A study of the faces in this remarkable assemblage will afford some idea of the multifold problems which faced the Provisional Government in its effort to satisfy the demands of all classes of Russians who for centuries had been crushed under the power of autocracy and who were now suddenly told that they were free, but without any definite idea as to what freedom means—that its preservation entails obligations as well as opportunities, sacrifices as well as enjoyment of its blessings.



Photograph by Paul Thompson

THRONGS BEFORE THE DUMA IMMEDIATELY AFTER THE REVOLUTIONISTS GAINED CONTROL OF PETROGRAD

"There has never been such a remarkable revolution in history. It has not represented plot and intrigue and ambitions of individuals. It represented merely the united desire of 180,000,000 people to carry on a war in which they believed, with the minimum of misery and the maximum of competence."



Photograph courtesy of General Hugh L. Scott

THE MEN WHO CARRIED A MESSAGE OF AMITY, ENCOURAGEMENT, AND GODSPEED FROM THE MOST POWERFUL REPUBLIC IN THE WORLD TO THE NEWEST SELF-GOVERNING NATION

The American Mission to Russia. Standing from right to left: Major Stanley Washburn, assistant secretary to the Mission; Basil Miles, secretary; Lieutenant Alva D. Bernhard, aide to Admiral Glennon; Surgeon Holton S. Curl, U. S. N.; Hugh A. Moran; Brigadier General Wm. V. Judson (detailed to remain in Petrograd as military attache to the American embassy); Brigadier General R. E. L. Michie, aide to the Chief of Staff; Baron de Ramsay, attaché of the Russian Foreign Office; F. Willoughby Smith, assistant secretary and American consul at Tiflis; Lieutenant Colonel T. Bentley Mott. Seated from right to left: Charles Edward Russell, Samuel R. Bertron, John R. Mott, Rear Admiral James H. Glennon, Ambassador David R. Francis, Elihu Root, chairman; Major General Hugh L. Scott, Chief of Staff; James Duncan, Charles R. Crane, and Cyrus H. McCormick.

to take a more active part in the campaign of 1917, but that she has remained in the war at all, in spite of the sinister influences that have been brought to bear against her.

Crisis after crisis has been weathered in Petrograd, and in the latter part of July there came the German blows in Galicia, which at this writing seem to have produced results neither greater nor less than they have always produced in Russia, namely, a retirement of the Russian army to a new line of defense.

The military reverses have produced a political crisis in Petrograd, which Kerensky has again stemmed, and once more the ship of the Russian state has its head into the seas and is slowly moving on again.

The world should have realized in April that Russia could not contribute anything to the war this year other than holding fast on her present line while her people adjusted themselves to their new conditions. After three years of misery and disaster, Russia was entitled to this breathing spell perhaps, and because she has not contributed to a coördinated advance this year is no reason for us to conclude that she is finished for all time.

© Harris & Ewing

ELIHU ROOT, GENERAL HUGH L. SCOTT, AND THE UBIQUITOUS NEWSBOY AT A WAY STATION NEAR MOSCOW

Evidently the street urchin of Russia is no more impressed by proximity to greatness than his brother gamin of the New World. The Russian "newsie," true to the spirit of the day, wears a military cap tipped rakishly over his right eye and carries his papers in a portfolio, like an artist or a cabinet minister.

In judging Russia we must remember that again and again we have had crises which at the time seemed as crushing as the present situation. When I first went to Russia, in the fall of 1914, people were talking of the disaster in East Prussia as being a fatal blow and laying open the way to Petrograd. In 1915 for six months I lived in nothing but disaster and retreat, while my days were filled with dead and wounded men and my nights lighted by the flames of burning villages. Every road was choked with fleeing refugees and retreating armies.

The world at large said that Russia was finished, and in 1916 Brusilloff advanced for 70 days, taking half a million prisoners!

When Warsaw fell we heard on all sides the tale of an independent peace—a tale which never was justified by subsequent events. The Galician drive of

© Paul Thompson

REVOLUTIONARY SOLDIERS CHECKING UP PASSES OF THOSE DESIRING TO ENTER THE DUMA GROUNDS

"The Committee of the Duma, which took charge of the Provisional Government after the overthrow of the old régime, faced the most difficult problem which any group of men has ever encountered. It was their duty to keep the war going while the minds and the opinions of the people were readjusting themselves to an entirely new standard as to what the State really was."

1915 was the end of Russia. The German papers said it, and even during the Russian successes and victories of 1916 German prisoners kept insisting to me that the Russians were defeated in 1915, and that the victories in Volhynia were being won by Japanese infantry and French guns.

Late last fall, when the disaster of Roumania overtook us, we again heard the same wails of the pessimists, that at last Russia would stop. But after a few shudders in Petrograd the situation passed and Russia again continued on her way and her army still kept the field.

Now, it would be folly for me to assure the readers of this magazine that there is no possibility of Russia going out of the war; but what I do urge is that we all consider Russia in the past and judge the present situation from our knowledge of Russian character in this war. We know that the Russians have patience, fortitude, and courage equal to any people in the world. We have seen them face defeat and discouragements year after year since the beginning of the conflict, and after every tidal wave of misery we have seen them emerge, pull themselves together, and struggle on once more.

KERENSKY'S GOVERNMENT WILL NEVER MAKE A SEPARATE PEACE

There is not the slightest chance that the government headed by Kerensky will ever make an independent peace. The question is how long he can maintain his government in power. What may happen in the future is speculative; but I think one can say, without reservation, that his hold on the government is stronger now than it has ever been. The first flush of the new liberty has worn off, and the people of Russia are perhaps beginning to realize that liberty does not

PARADING BEFORE THE WINTER PALACE IN PETROGRAD

In striking contrast to the terrible bloodshed which marked the overthrow of autocratic monarchy in France a century and a quarter ago, the Russian revolution was accomplished with astonishing orderliness. There was no looting whatsoever. All the priceless art treasures of the deposed Tsar's palaces in Petrograd and at Tsarskoe Selo remain intact.

mean the freedom of the individual to abandon work and do nothing.

Perhaps it is too soon to say that the crisis has passed in Russia; but it does seem as though the fallacies of the German propaganda were being recognized and its strength being diminished. That we will have more crises in Russia is beyond doubt; but we in America must view them without panic or undue pessimism, trusting in the character of our allies as shown in the past, helping them morally and materially where we can, and sympathizing with them in this their first great trial at democracy.

The retirements of the Russian army need alarm us only to the degree in which such movements threaten to end the war. In France or in Flanders the loss of terrain threatens the issue, but in Russia the only vital objective of the enemy is the Russian army itself. The loss of food-producing territory in Galicia and Podolia is, of course, regrettable; but as long as the army keeps getting away we need not be too fearful as to the issue. It must always be remembered that the greatest help Russia can give us is by fighting at the same time that we are fighting, and, broadly viewed, it is of relatively small moment whether she is fighting in Poland or whether she is standing on a line in front of Kiev, Moscow, and Petrograd.

THE PATHETIC PLIGHT OF ROUMANIA

The winter in Russia promises to present many hardships, and we must, with evenly poised minds, watch with solicitude and concern, helping where we may her struggles during the next six months, bearing in mind always that with an army of 3,000,000 enemies in the heart of her great country next spring, she may help us end the war next year; but with Russia at peace at least two years must elapse before a supremacy in the

Photograph from General Staff, Roumanian Army

THE HIGH COMMAND OF THE ROUMANIAN ARMY

King Ferdinand stands near the extreme left of the picture, leaning on a cane. The officer wearing the numerous decorations is General Averesco, commander-in-chief of the Roumanian forces.

West, based on man power, will enable us to force a military decision.

In inviting sympathy for and patience with the unfortunate Russians in this their moment of extreme trial, one must not forget the plight of poor little Roumania, whose fortunes are bound up with Russia. Roumania entered the war with her eyes open as to what would happen if she failed. She had been led to believe that the Germans could not send above ten divisions against her, and they sent thirty. The Roumanians have played the game as they were urged to do, and as a result now hold but a quarter of their country, and that small relic threatened. In spite of it all they have held true to the cause, and are fighting harder and better today than when they first entered the campaign. We have to her as to Russia the moral obligation of support, both in sympathy and in material, where transportation facilities will permit. Both of these countries, according to their capacities, have contributed all that was in them to the cause, and whatever happens, be it good or bad, the part both have performed in wearing down the enemy that we might ultimately deal with them must be neither overlooked nor forgotten.

INDUSTRY'S GREATEST ASSET—STEEL

By William Joseph Showalter

SURELY that is a stranger alchemy than was possessed by the genii who peopled the days of the Arabian Nights, which can take crumbling brown hematite ore from the ranges of Minnesota, friable black bituminous coal from the heart of the mountains of Pennsylvania, crushed gray limestone from the quarries of Ohio, soft red copper from the mines of Montana, downy white fiber from the fields of Alabama, pungent drab dust from the nitrate region of Chile, impalpable yellow sulphur from the beds of Louisiana, and, adding to them the level-seeking impulse of Niagara's waters, compound potions out of whose fumes rise guns and swords and shells and explosives which must conquer the power that has made the whole world afraid.

And yet, stripped of its confusing details, such is the wonderful story of the making of the vast quantities of the fundamental munitions of war and of the great task which falls to the lot of industry in the world's common cause against Germany. It is a magic tale in which fact outruns fancy, truth makes fiction an unimaginative fabricator, and the real appears more strange than the extravagancies of a dream. But when we have seen the yielding hematite, as soft as a sand pile, becoming crucible steel, whose hardness is adamantine; when we have watched the odors from the coke oven becoming pent-up power mightier than ten thousand demons; when we have beheld the cotton of the field become so highly explosive that it must first be tamed before it is docile enough for use even in the biggest of guns, then we will appreciate some of the weirdly wonderful transformations that science, applied to industry, can produce.

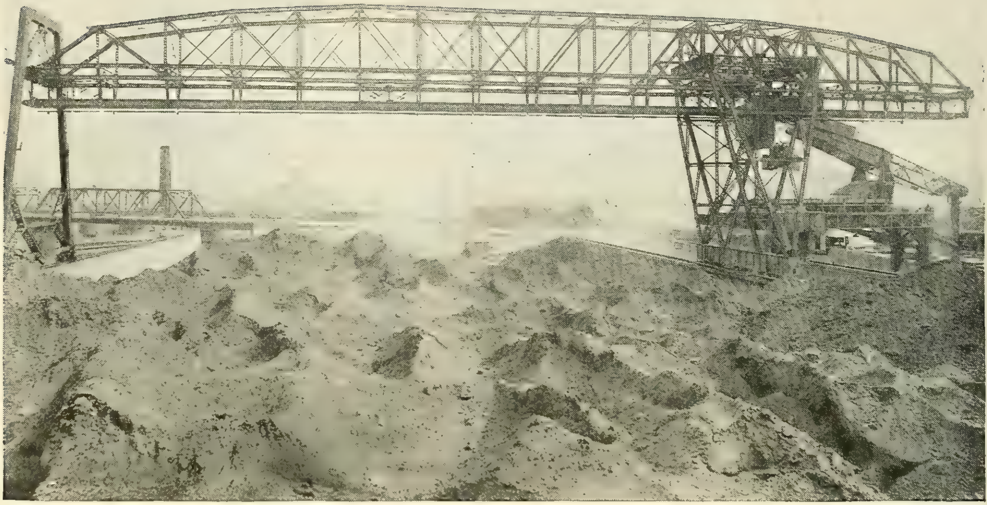
THE GENESIS OF STEEL

The present article deals only with one phase of this marvelous story—the making of the steel for the guns and shells which America will use in her war against the Kaiser and his cohorts. It naturally begins at Hibbing, Minn., the iron-ore capital of the world and the richest village on the planet; for here is located the Hull Rust mine, a hole in the ground which rivals Galliard Cut at Panama.

Most streets in Hibbing begin at one man-made precipice and end at another; for, not content to be the proud possessor of the biggest iron mine in existence, this enterprising little metropolis has gathered several other sizable ones around her as a hen gathers her brood. In 1910 the population of the iron town was less than nine thousand, and yet it had a street-lighting system as ornamental as that of Cleveland, Minneapolis, or Detroit, and far more beautiful than that of the nation's capital. Great bronze posts surmounted by groups of four or five arc lights make the village—for it is too rich and prosperous and content to aspire to the rôle of town or city—appear the last word of modernity in municipal lighting.

The streets are paved, and everybody seems to have an automobile; so that street-cars would be about as necessary as a fifth wheel to a wagon. Going up to Hibbing from Duluth, one gets his first idea that the ore capital must have money to burn, for in the parlor cars and day coaches alike appear signs which warn against playing cards for money in railroad trains.

To get some idea of Hull Rust mine, imagine a great terraced amphitheater cut out of rolling ground, half a mile wide and nearly two miles long. Dump Gatun Dam into it and there would still be a yawning chasm unfilled. Put a ten-story office building into its deepest trench and the top of the flagpole would barely reach to the line of the original surface (see page 124).



AN ORE STOCK PILE AND HANDLING MACHINERY: CLEVELAND, OHIO

Many furnaces are located on the banks of navigable waters and the ore is unloaded directly on their stock piles. As the lakes are navigable only from the latter part of April to December, great mountains of ore must be piled up in reserve for the winter season. This is delivered to the blast furnace by cranes and other apparatus.

ORE HANDLED LIKE SAND

Ordinarily one thinks of mining as an occupation for human moles that burrow in the ground and bring out hard ores from cavernous depths. But when Nature laid down the Lake Superior ore ranges she made burrowing and blasting unnecessary for the most part. In the Mesaba Range—and, by the way, there are as many ways of spelling that word as there are of pronouncing Saloniki—the ore has largely the consistency of sand, and lies so close to the surface that it would be as foolish to burrow instead of digging as it would be to tunnel instead of cutting in building a railroad through a small knoll. There is a general rule among the ore miners up Mesaba Range way that it is profitable to dig rather than burrow where there's not more than a ton of soil above for each ton of ore beneath.

When one who has visited Panama reaches Hibbing he can almost imagine that Uncle Sam is so enamored of the job of removing mountains with the faith of enterprise that he has decided to repeat his Isthmian performance in Minnesota; for they certainly do "make the dirt fly" up there. Uncle Sam borrowed their steam-shovel idea when he tackled Culebra Mountain, and handled it so successfully that all of the world's excavation records fell before his work there. But with the quickened demand for iron and steel that the world war has engendered, the pennant to the world's champion diggers has passed back from the Chagres River to Lake Superior.

Yardage was king at Panama, but tonnage is czar on the Minnesota ranges. At Panama the question was how big a hole could be dug in a day; in the iron-range region it is how many tons of ore can be sent down the lakes a season. It's somewhat uncanny to see a whole battery of steam shovels biting into the soft red stuff that looks like a cross between the sand pounded out of red sandstone by rivers and the loamy brown clay of the fields, and to realize that it is the raw material which will determine the fate of nations and mayhap transform the course of the world's history.

And how they do make hay when the sun shines up on the iron ranges! Panama had its rainy season, but the iron ranges have their snowy season, beginning in December and ending with Easter, when that festival happens to be late enough. They have only eight months in which to meet the vast demand of the nations for iron and steel, and that demand last year called for nearly 67,000,000 tons of ore from them. That meant more than 46,000,000 cubic yards of material, or nearly one and a half times as much for the average month as the best month in Panama's history can show. Think of it—more material dug out, loaded onto cars, transhipped to ore boats, and carried a thousand miles in eight months than Panama was ever able to take out and haul an average of ten miles in fifteen months!

INTENSIFIED LABOR-SAVING

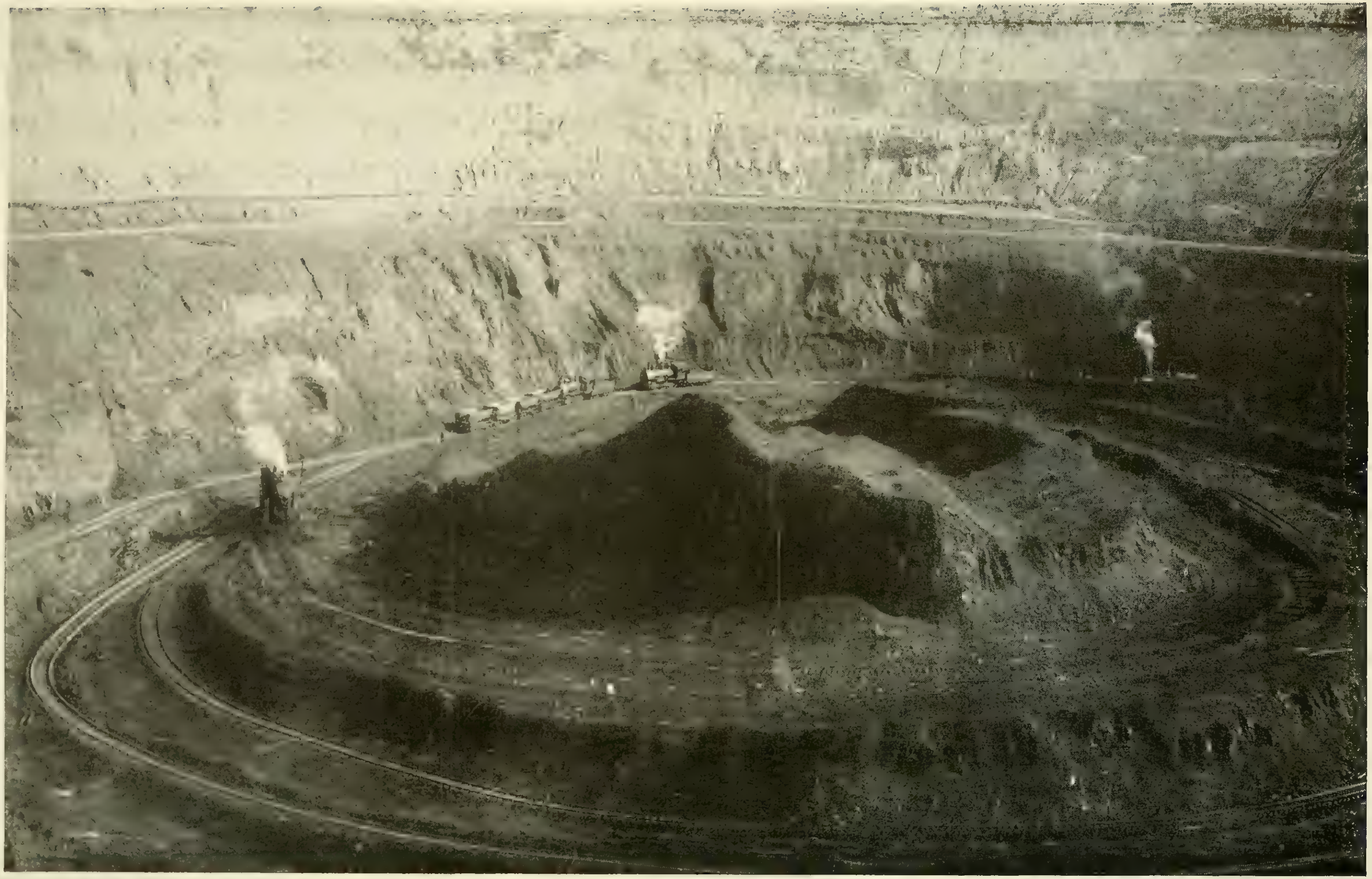
How do they do it? They do it with the most wonderful lot of man-eliminating, time-saving, obstacle-conquering machinery ever put to a thousand-mile purpose. The Hull Rust mine, to begin with the ore in the ground, is a series of terraces, or benches, as the engineers call them, from the banks to the bottom. On each of these Brobdingnagian steps there is room enough to maneuver a steam-shovel and a railroad train, and up and down the line go the shovels, shifting their positions as they eat into the bank, and loading a big ore train in less time than a child with a toy shovel could fill a little red express wagon. Day and night the work goes on—two tons to the shovelful, five shovelfuls to the minute, and five minutes to the carload. Not long ago a steam-shovel loaded 7,689 tons of ore as a single day's work.

The ore cars on the iron ranges are of the regulation pressed steel, bottom-dumping, 50-ton coal-car type, and they run in trains a third of a mile long. The railroads from the mines down to Duluth, Superior, and Two Harbors are of the best construction, like the main lines of our biggest eastern roads. The trains crawl through the hills and vales that Proctor Knott declared, in his celebrated speech in Congress, would not, except for the pine bushes, "produce vegetation enough in ten years to fatten a grasshopper," but where today, nevertheless, there are communities in which farmers are now growing three and four hundred bushels of potatoes and thirty bushels of wheat to the acre. Where gold and silver were located on the map Knott made famous, one now finds the richest iron mines of the world—mines that beggar the bonanzas of California.

The haul from Hibbing to Duluth is 80-odd miles. Just before the trains reach Duluth they come to Proctor, the biggest ore yard in the world. Here they run across a scales unique in the history of the art of weighing. There would be an endless congestion and a consequent shortage in steel were it necessary to stop each car on a scales and weigh it; so a weighing mechanism has been devised which permits the tonnage of cars in motion to be registered. A train slows down as it approaches and passes over the platform at the rate of from five to eight miles an hour, the weight of each car being automatically recorded as it passes.

From Proctor the trains run down to the huge unloading piers at Duluth. These piers are vast platforms built out over the lake, nearly half a mile long and wide enough to accommodate two tracks, which are at the height of a six-story building above the water. Beneath the tracks is a series of pockets, holding some two or three hundred tons of ore each. The ore is automatically dumped into these pockets and the train starts back to Hibbing (see page 128).

Even while the trains are dumping their burden ships are alongside with huge spouts in every hatch and a hatch every 12 feet, with ore flowing down out of the pockets like water out of a funnel, at the rate of some 80 tons a minute, as a rule, and as much as 300 tons as the exception.



Photograph by L. P. Gallagher

VIEW OF A PORTION OF ONE OF THE BIG OPEN-PIT MINES ON THE MINNESOTA RANGES

"Even if we have furnaces as large as yours," once declared a manager for Krupps, "even if we have your machinery and your skill and our organization, and coal as plentiful as yours, we haven't your ore." And that is one of the reasons why the United States was able to produce more than half of the world's pig iron last year. Most of the ore is scooped up by steam-shovels, like sand (see page 122).

AN OLD SALT'S OPINION

These ore ships are a story in themselves. They remind us of the exclamations of an old Cape Cod salt who beheld one for the first time: "Now clap your eyes on that! D'ye call that a ship? Why, I'm telling you a loggy lighter with a tenement-house on one end and a match factory on t'other would look better'n that rum-looking craft. How'd the skipper and the chief engineer ever get acquainted? And what if one of 'em wants a chew of tobaccer from t'other? And you say the skipper bunks in the skys'l fo'c'stle forward while the cook and ship's boy has the quarterdeck? Well, I wouldn't ship as rope yarn on such a bloody drogher!"

The big freighters do in general outline fit the old salt's sketchy description. Some of them are more than 600 feet long and only 60 feet beam. With officers' quarters and bridge in the bow and crew's quarters and engine-room in the stern, and all of the rest of the ship without superstructure of any kind, and with a flat deck with hatches spaced six feet apart, a salt-water sailor might well regard them as uncanny apparitions of the unsalted seas. The *William P. Snyder, Jr.*, 617 feet long and 64 feet beam, drawing about 20 feet 6 inches of water, when loaded to capacity, broke the world's bulk freighter record in 1916, carrying 13,694 tons of ore on one trip.

These big ships, in spite of the fact that they are able to work only eight months and notwithstanding the wonderfully low ton-mile freight rate they offer, are veritable gold mines. With the progress in the art of bulk freighter construction that a quarter of a century has brought forth, miracles of efficiency have been wrought. Vessels of the largest type are operated today with engines of the same pattern and power as were fitted into ships of one-third their tonnage two decades ago. Indeed, so economical in operation are the big ore carriers of today that they use only a shade more than half an ounce of coal in carrying a ton of freight a mile—a statement so remarkable that one could not believe it except upon the authority of R. D. Williams, editor of the *Marine Review*. Another authority puts the cost of operating such a ship at between $200 and $300 a day.

Even at the latter figure and ten days to the trip, with cargo only one way, the cost of a trip to the owners is only $3,000, while the receipts were $6,000 last year, and at this year's rate will be $10,000. But even at a dollar a ton, moving ore a thousand miles in these vessels costs only one-sixth as much per ton-mile as moving it on the railroads.

PROCTOR KNOTT'S UNMEANT PROPHECY

As one stands at Duluth today and sees the endless procession of ships that glide down the lakes, with their cargoes of potential steel and promised victory, and then reflects upon the picture the great satirist, Knott, drew of the state of the nation, in the event of a foreign war, without Duluth and "the prolific pine thickets of the St. Croix," there comes a realization of how the jest of yesterday may be the solemn truth of today. Without the iron and steel and wheat of the region he joked about, we might in very truth come to find all our ports blockaded; all of our cities in a state of siege; the gaunt specter of famine brooding like a hungry vulture over our land.

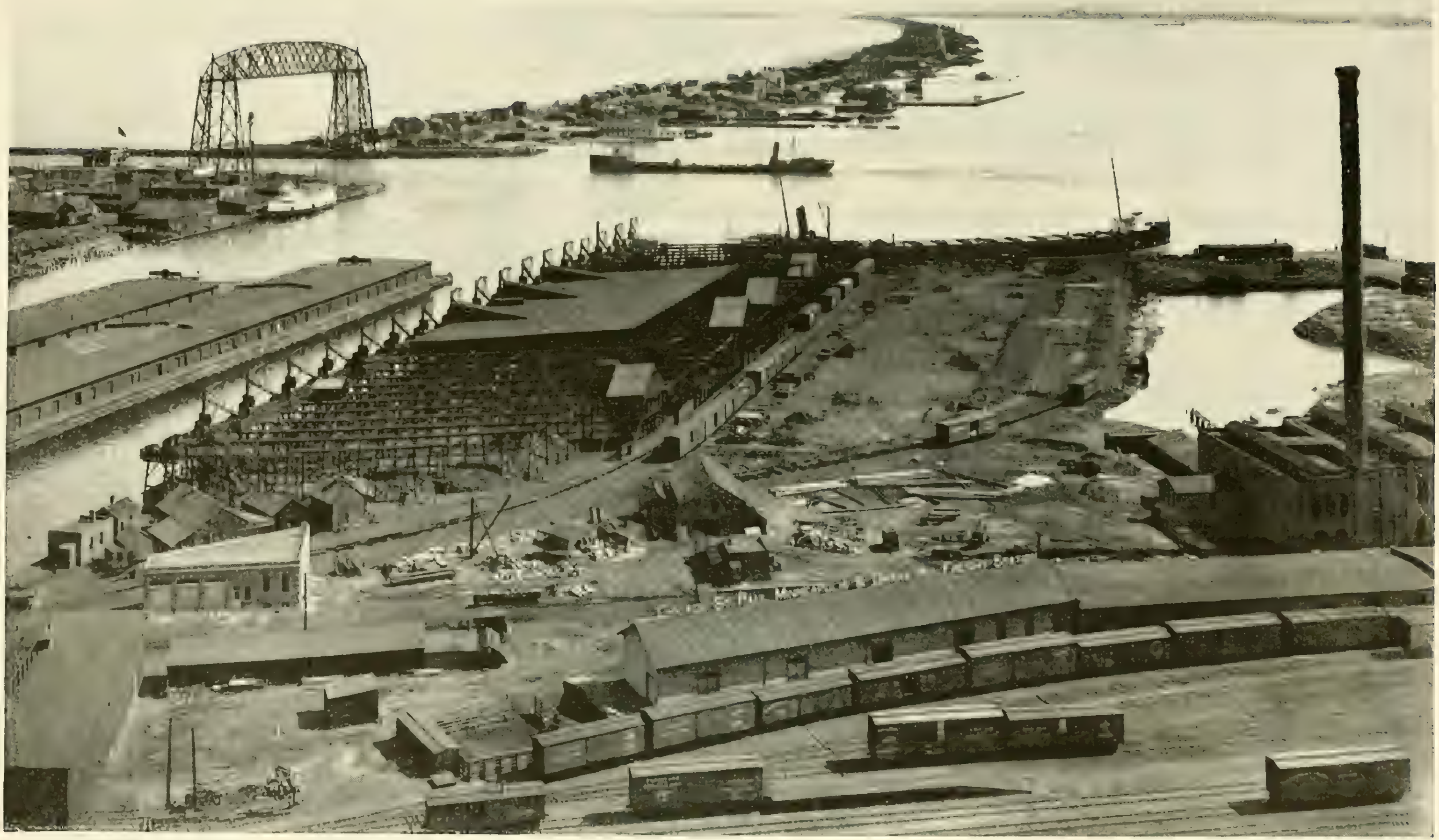
It is hard for the mind to grasp what the iron ranges of the Lake Superior region have meant to us. They give the nation all but one-sixth of its iron and steel, and made possible until a few short months ago the production of a pound of iron at a cost of less than three-fourths of a cent. Our railroads, our steamship lines, our factories, all the things that make America potentially the strongest nation on God's green earth, draw their life from the iron ranges. Last year they contributed enough ore to make a wall around the United States a yard thick and 8 feet high. Since they were first opened up they have supplied enough ore to inclose the country with an ore pile of natural slope with a base wider than the road-bed of a standard double-tracked railroad.

One senses something of this vast traffic as, stopping for a day at the Soo locks, he sees that wonderful procession of ore carriers sweeping down through the great ship stairs and back again, as if they were

Photograph by Hugh Kennedy

A QUARTER OF A MILLION TONS OF PIG IRON AT BUFFALO

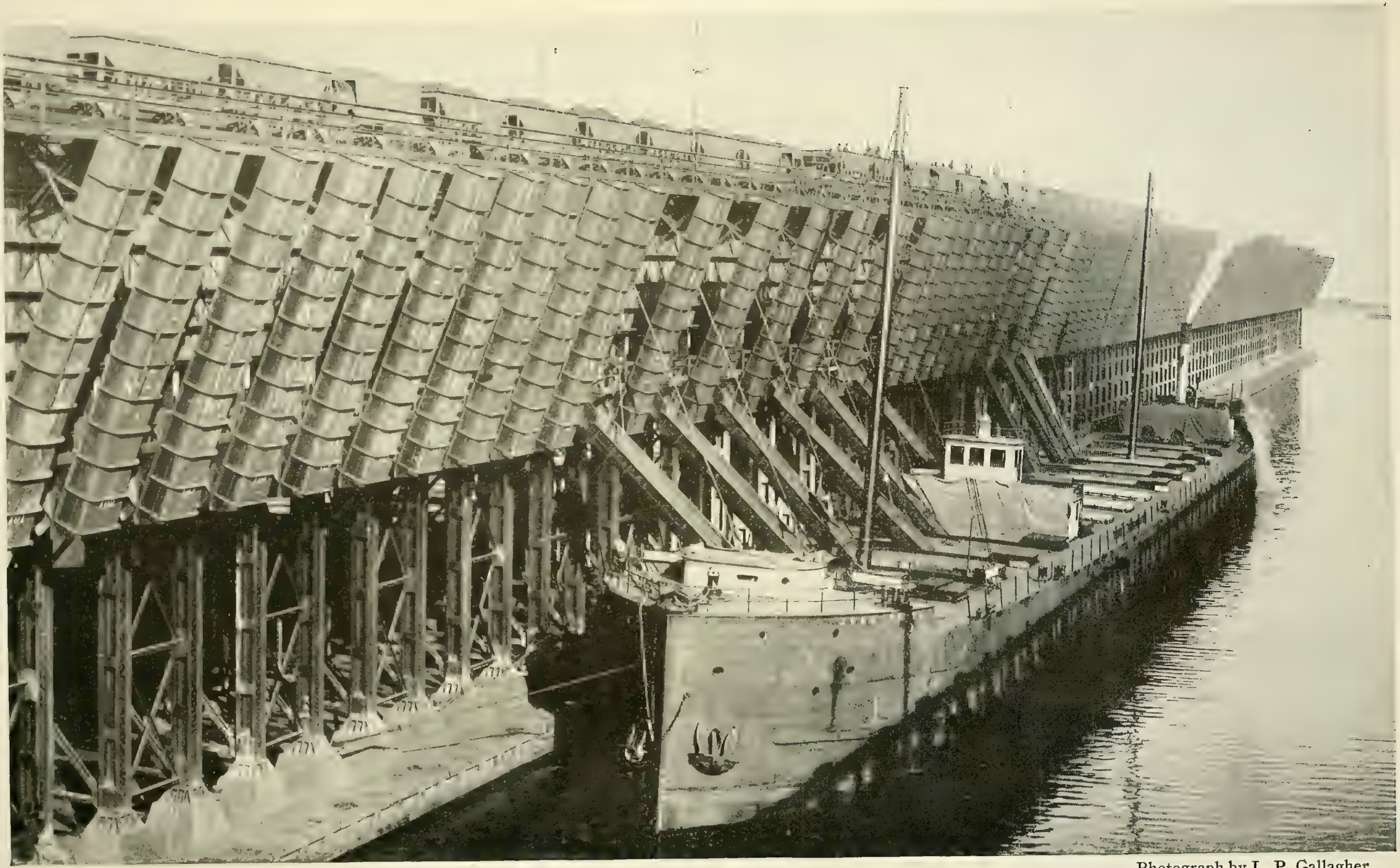
This mountain of metal was handled by an electro-magnetic crane. It is interesting to watch such a crane loading a car. The lifting arm goes out over the pile, the cable drops the magnet down into contact with the "pig," a little lever is moved, and the inert magnet takes unto itself invisible power as great as that of steel grappling hooks. Then the cable pulls up the magnet and its tons of adhering "pigs," the arm swings around, the magnet is let down into the car, the current is turned off, and the invisible hold released. Cars are loaded to exact quantities, and the finishing process reminds one of the grocer weighing out a bag of sugar. The man at the scales calls out, "One thousand short." The craneman thereupon cuts off a tiny bit of current and a corresponding number of "pigs" drop into the car. Now there is slightly too much, and the craneman adds more "juice" to the magnet, which picks up a pig or two and the scales balance.



Photograph by McKenzie, Duluth

PARK POINT OR MINNESOTA POINT AND DULUTH HARBOR

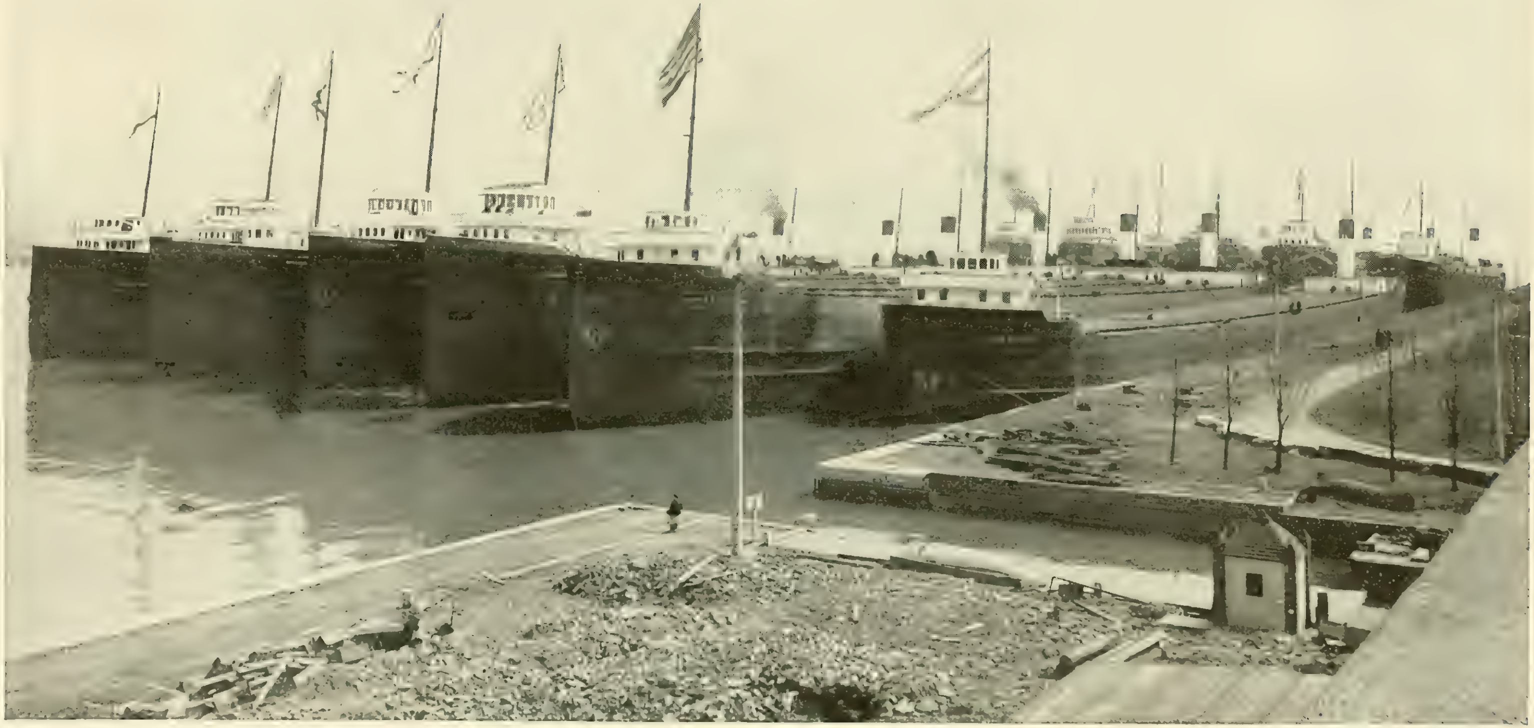
It is hard to realize that the output of pig iron in the United States in 1910 was greater in tonnage than the world's total output only twenty-five years ago. Duluth's ore and grain shipments last year gave it a greater outgoing tonnage than any other two ports in the world. The bridge shown in this picture is the only one of its kind in the United States. It is 365 feet long and 185 feet high, and spans the harbor entrance to "The Zenith City of the Unsalted Sea," as the mineral metropolis calls itself.



Photograph by L. P. Gallagher

LOADING AN ORE STEAMER AT ONE OF THE GREAT STEEL AND CONCRETE PIERS IN DULUTH

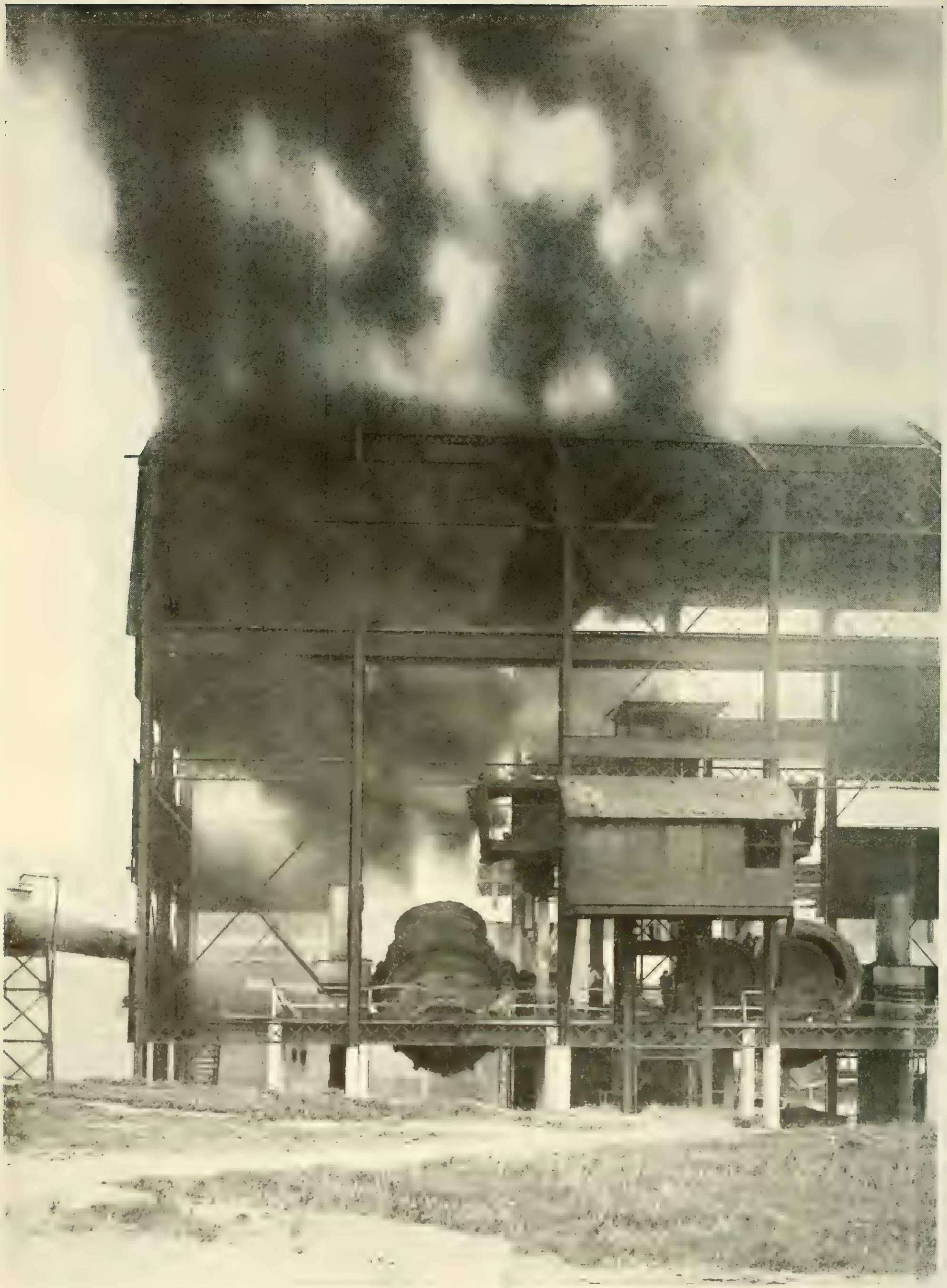
The largest of these docks is nearly half a mile long. The world's record for ore handling was made in 1909, when the freighter *William E. Cory* took aboard 9,457 tons in twenty-five minutes, or 378 tons a minute. It is no exceptional performance for a big ore boat to take aboard 10,000 tons in an hour. Note the cars on the dock ready to be dumped into the pockets that connect with the spouts through which the ore is passed by gravity into the ship's hold (see page 123).



Photograph by A. E. Young

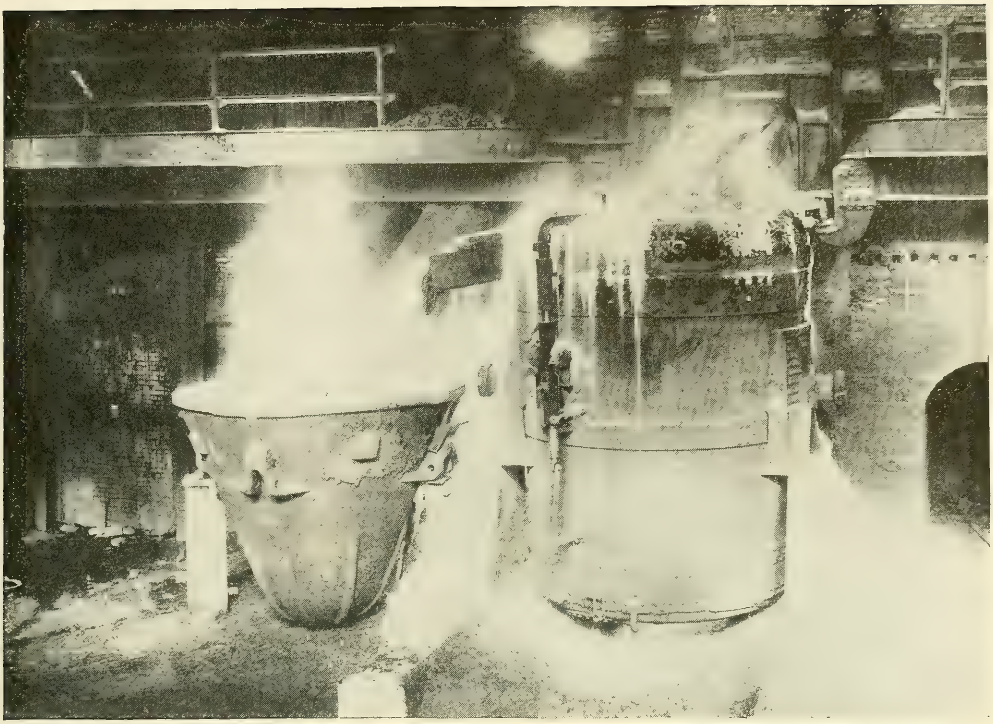
AN AMERICAN BLOCKADE: ORE SHIPS TIED UP AT THE SOO LOCKS

Who can say how much America owes to the Great Lakes? Last year the freight passing through the Soo locks alone represented a movement equivalent to that of hauling an 800-ton load of freight from the earth to the sun.



BESSEMER CONVERTERS AT WORK

As pig iron comes from the blast furnace it still possesses certain impurities, such as carbon and silicon. The mission of the Bessemer converter is to get rid of these. It is a huge egg-shaped steel container, lined with fire-brick, and mounted on trunnions so that it may be tilted and its liquid contents poured out. By means of a blower a tremendous supply of oxygen is driven through the molten metal, taking off with it all the carbon as it goes. After the blower has been turned off, a scientifically measured quantity of carbon is added to give the contents the characteristics of carbon steel (see text, page 151).



Photograph from Brown Brothers

TAPPING AN OPEN-HEARTH FURNACE IN A MODERN STEEL MILL

When an open-hearth furnace is tapped a big ladle is brought into position, a workman runs a crowbar through the clay stopper holding back the molten metal, and it runs out like buttermilk from a churn. What slag accompanies it rises to the top as oil on water and overflows the sides when the ladle becomes full of the melted steel. Once filled, the ladle is picked up by a crane and its contents dumped into molds to harden into ingots. This is the first process in making the major portion of the country's steel and is now almost exclusively used in making steel rails

an endless chain turning round sprockets at the head and foot of the lakes, with the Soo locks as an intermediate support.

GLORIFIED WALKING BEAMS

When the big ore carriers arrive at the lower lake ports — Lorain, Cleveland, Ashtabula, Conneaut, Erie, and Buffalo—they hasten up to the ore-handling plants, every hatch open and ready for the unloading. Gravity may load a ship, but it has never yet unloaded one, and so machinery does the work. Instead of the old way of hoisting shovel-filled buckets by horse-power and dumping them into the wheelbarrows of picturesque longshoremen, a method by which it cost 50 cents a ton to get the ore from hold to car or pile, today gigantic unloaders, the most modern of them grabbing up 17 tons at a mouthful, save so much labor that it costs in some cases less than five cents to take a ton of ore out of the hold and put it on the small mountain the ore folk call the stock pile, or in empty railroad cars waiting on the track hard by.

The Hulett unloader reminds one of a glorified walking beam of the sidewheel steamboat variety, with one of the legs left off. Instead of the other leg connecting with a crank shaft, it has a wonderful set of claws at the lower end, and above them an ankle of startling agility. These great claws open and shut by electricity, and they take up 17 tons with as much ease as you might close your hand on an apple. The operator is stationed inside the leg just above the claws and gets all the sensations of riding a roller-coaster, as he jumps in and out of the ship hour after hour (see page 134).

When the claws are full, the operator turns a lever; the walking beam seesaws back to the opposite position; the load

ANOTHER VARIETY OF MEN BEHIND THE GUNS

These men are twice men behind the guns in the cause of America. They subscribed more than five million dollars to the Liberty Loan, and they are doing their bit to furnish the battle front with the artillery that must ultimately hammer an unstoppable hole through the lines of the enemy.

comes out of the hold and is dumped into a bin. From this bin it flows by gravity into big coal and ore cars to be hauled to the furnaces, or else is delivered to the buckets of the great cantilever bridge, which carry it across to the big stock pile. Once it took a week, with a regiment of men, to unload a small ship, whereas now half a day and a corporal's guard can send the biggest ore carrier afloat on its way empty.

There are several other types of unloaders, some of them having huge horizontal beams reaching out over the hatches of the ship and forming trackways for the big buckets that run out to the end on carriages, and then drop down on a cable into the hold for a load of ore. Whoever has watched a farmer store hay away in his barn with a modern hay fork will understand the rôles the beam and the cable play.

The mining and navigation season being only eight months long, the ships must bring in enough ore to keep the furnaces running during the additional four

Photograph from Bethlehem Steel Co.

FOURTEEN-INCH GUNS AND TURRETS UNDER CONSTRUCTION

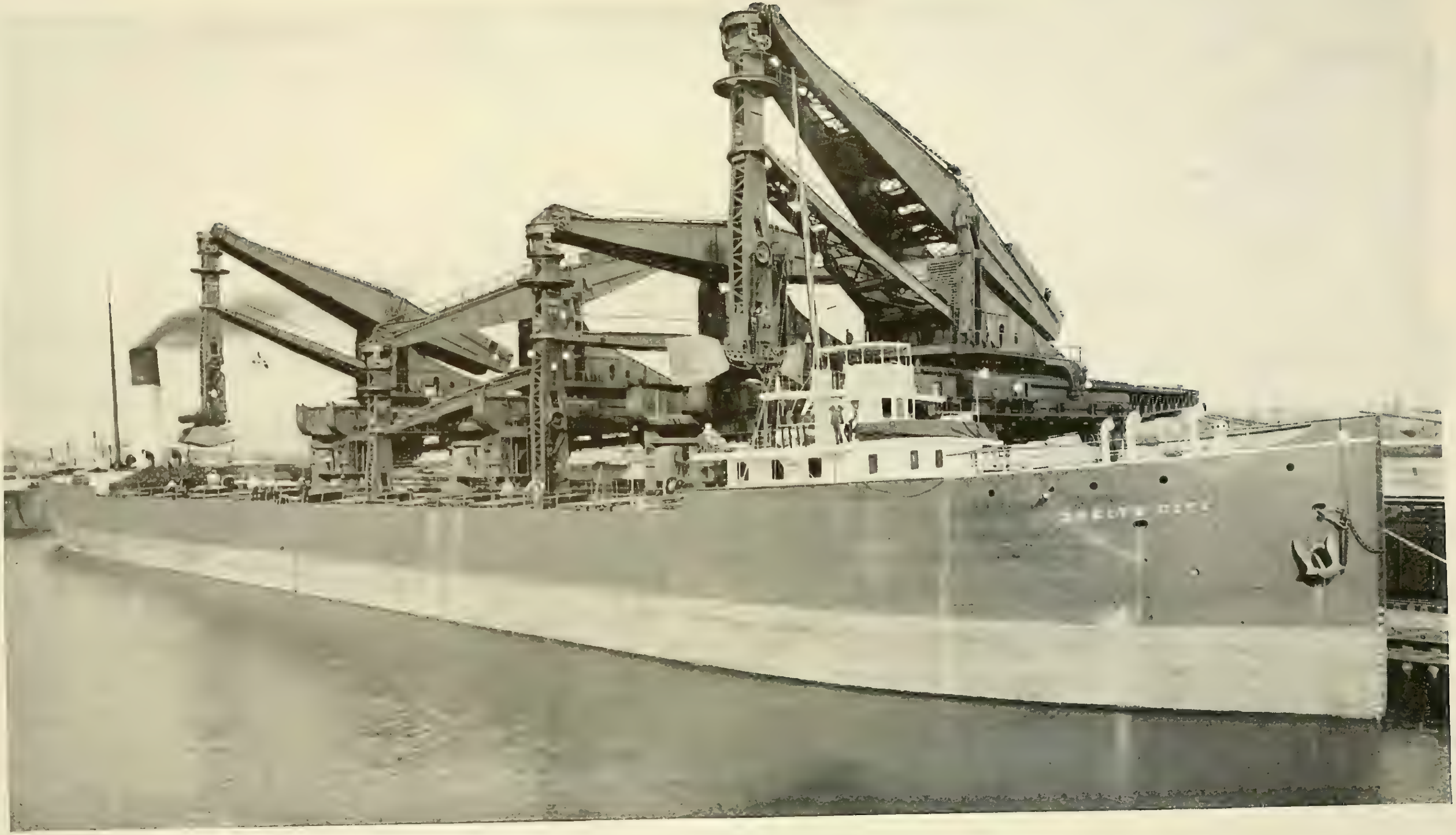
Such big guns as these can send a projectile weighing two-thirds of a ton flying through space at an initial velocity of 20 miles a minute. They require some 600 pounds of powder for each shot, and give the projectile a twist that makes it whirl as it flies—a complete turn for every 30 feet it travels.

months, and so the red ore pile is seen everywhere at lake ports and furnace plants. Many of the furnace plants are right alongside the unloading docks and save the cost of railroad haul. But there are still millions upon millions of tons of ore that must take a second ride by rail before it can reach the hour of its transformation into pig iron.

Having followed the ore from the mine to the furnace stock pile, omitting any account of underground mining and milling because of their relatively small contribution to the total ore production, and also omitting the story of the concentration of lean ores, let us now watch the assembling of the other materials that go into the furnace.

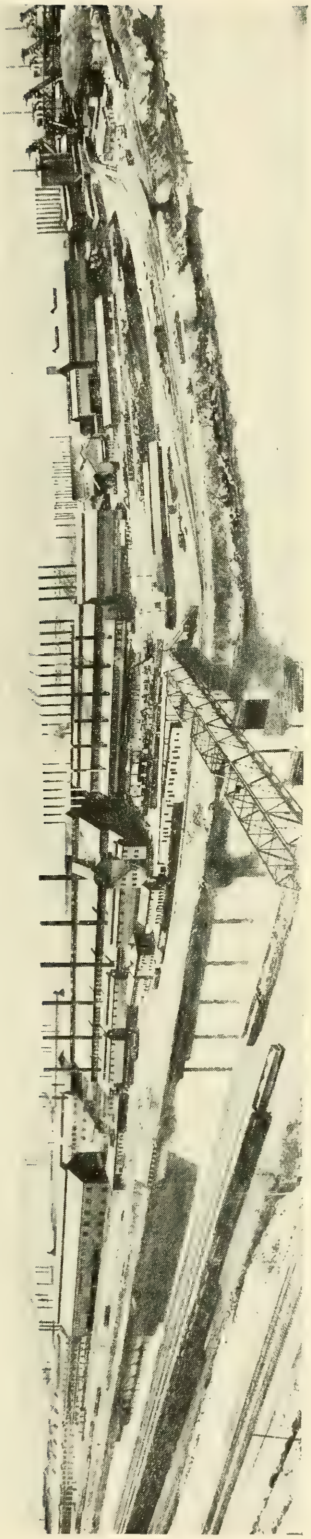
MAKING COKE FOR BLAST FURNACES

The coal comes in the main from Pennsylvania and West Virginia. A famous coal region that furnishes coking coal is the Connellsville district. Let us go to Standard Mine No. 1 there and have a look. It sends up 50 tons of coal every



HULETT UNLOADER REMOVING THE ORE FROM A LAKE FREIGHTER

This view gives one at once a striking idea of the imposing dimensions of a lake freighter and tells an eye story of the unloading equipment. The unloader in the foreground, with its 17-ton bucket open, is ready to grab a load when the walking-beam dips down. The second is beginning to bring up its bucketful; the third one is in the act of taking its mouthful; the fourth has been down, has filled itself, and is ready to discharge. A battery of these busy giants has transferred as much as 11,083 tons of ore from the hold of a ship to the stack pile in three hours and forty minutes. Note the man in the leg of the first unloader; he dives in and out of the hold as bucket operator all day long. Note also the two on the bridge and those along the starboard rail (see also page 131).



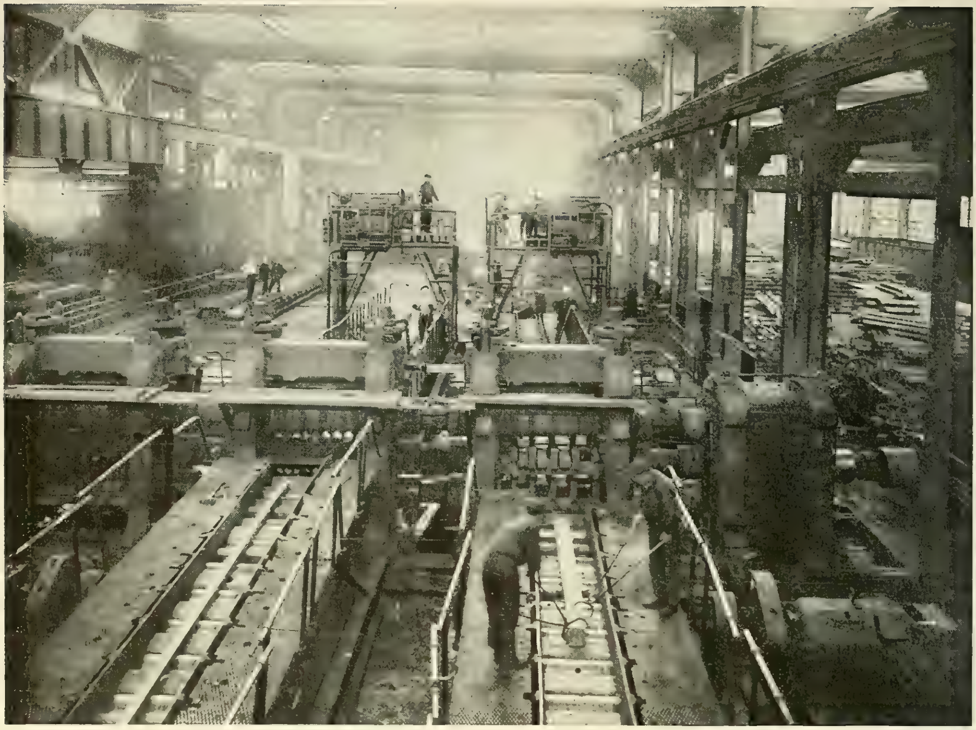
ONE OF THE GREAT STEEL PLANTS AT YOUNGSTOWN, OHIO

hour. Going down the shaft to the bottom of the mine, one finds a subterranean village, with a windowless office building as a part of the equipment. The whole village is electrically lighted, and it is easy to imagine one's self in an underground Latin-American plaza, with stores all around. The streets run off in every direction; but instead of street-car lines there are coal trains drawn by steam engines that have no fire-boxes. Strange sort of locomotives, eh? Well, you see, fire has no place down in a mine, and so they generate the steam up on top of the ground and send it down through pipes to the engines. A huge locomotive, with a 50-car train tagging on behind, and with never a bit of smoke, makes the streets of this underground world look eerie indeed.

Here the foreman will probably show you the mine stable, with its well-fed horses and its sleek-coated mules; nor does he forget to call your attention to Jennie, the mine dog, with her little brood of puppies, as happy and as playful as if their eyes had first opened in the sunshine instead of under the glow of electric-light bulbs. And then you will want to see the pumps, for the water comes into the mines twelve times as fast as the coal goes out, flowing from a host of underground springs. To pump water day and night, winter in and summer out, at the rate of 10 tons a minute, is no Old Oaken Bucket job.

On top of the ground are the beehive coke ovens. Here all the volatile matter is burned out of the coal, usually in 48 hours' burning, and the carbon or coke is left behind. As the coal comes up the mine shaft it is dumped into a bin, out of which it flows by gravity into an endless chain of little cars which run along on top of the ovens and charge them. After an oven is charged with coal it is then sealed, except for a little aperture at the top of the door which regulates the burning process. When all the volatile matter has been burned out, the door is opened and a great mechanical scraper goes in and scrapes out the coke.

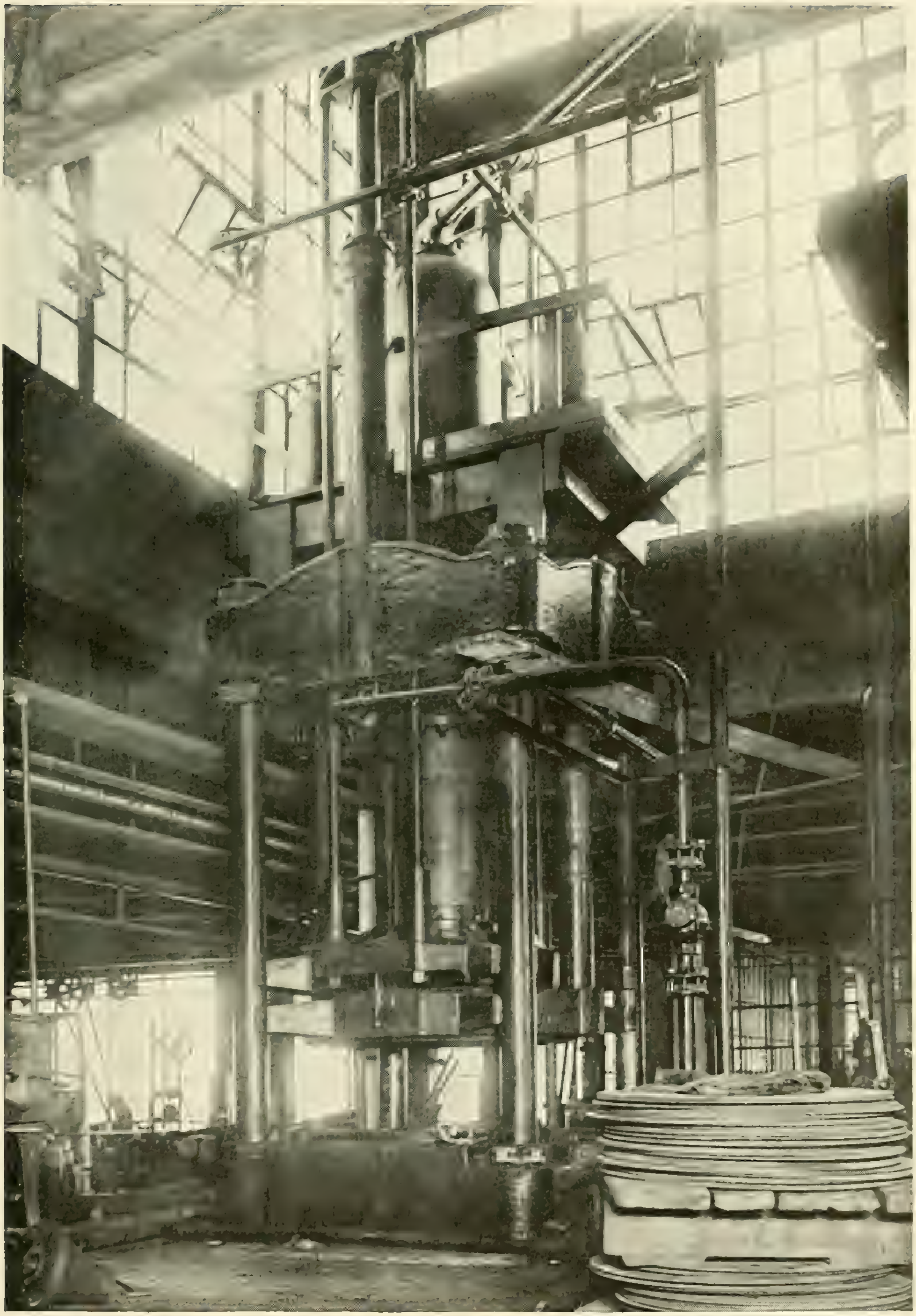
But the great war has taught the coke producer what a terrible waster of the nation's resources he has been. Twenty-eight per cent of every ton of coal put in a beehive oven goes up in odorous gases,



ROLLING BARS FOR SHRAPNEL STEEL AT A PENNSYLVANIA MILL

Photograph from Press Illustrating Service, Inc.

WOMEN DOING THEIR BIT IN AMERICAN MUNITION FACTORIES



Photograph from Prest-o-lite Company

A GIGANTIC PRESSURE PRESS FOR STAMPING CYLINDERS OUT OF STEEL PLATES AT ONE OPERATION

This industrial titan, one of the most powerful engines in the world, exerts a pressure of 800 tons upon a sixty-inch steel plate, converting it into a cup having a diameter of 42 inches, the thickness of the steel being one-fourth of an inch.

Photograph from Brown Brothers

THE FINISHING SECTION OF A BIG RAIL MILL

After the rails have been rolled and heat-treated, they are sawed into proper lengths and sent through a straightening department, where the holes for the fishplates are punched

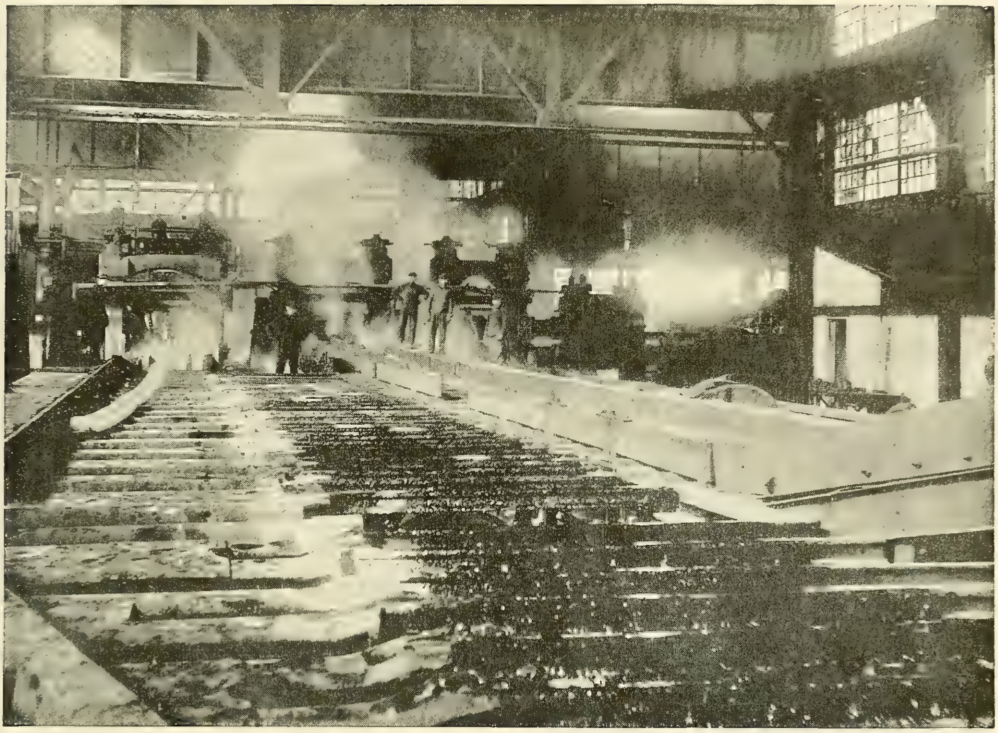
unregarded in former years, but immensely valuable to a world that desperately needs them. From a ton of coal there may be extracted five gallons of tar, 20 pounds of sulphate of ammonia, and from 1.1 to 3.7 gallons of benzol, with a small quantity of toluol, to say nothing of 10,000 cubic feet of gas.

In other words, the odors of the beehive coke oven, if properly handled, are worth, at current prices, from two to four dollars for every ton of coal—worth more indeed than the coal itself sold for before 1916. In addition to this wonderful saving, it was found that an improved type of oven, such as is necessary to save what would otherwise go up in smoke, produces 75 pounds of coke for every 100 pounds of coal, whereas the beehive oven gets only 65 pounds of coke out of each 100 of coal. It is estimated that in 1913 alone, a year of normal prices, the natural wealth that went up in smoke was approximately as great as the total earnings of all the workingmen engaged in the manufacture of automobiles and agricultural implements.

PROFITS FROM THE TAR-POT

The by-product coke oven overcomes all this. With 40,000,000 tons of coke required annually, and each ton representing a possible saving of materials now worth at least three dollars a ton, it will be seen what a boon the new type of oven is.

In making by-product coke the bituminous coal used is ground to a very fine grain. It is then dumped into the ovens, a battery of which may be said to resemble a series of giant lockers arranged side by side, about 12 feet tall, 37 feet in horizontal depth, and tapering in width from 18 inches at one side to 21 inches at the other. Great heating flues surround each oven and soon make the coal white hot, driving off all of the gases. These gases pass out through a pipe in which they are made to surrender the ammonia and tar they contain. About half of the gas, after being thus deprived of its load of tar and ammonia, is forced to return to the task of heating the oven for future charges of coal, while the other half is



Photograph from Brown Brothers

STEEL RAIL PASSING THROUGH A ROLLING MILL

After the liquid steel has been poured into the ingot mold and has cooled sufficiently to become hard, the mold is slipped off, and a long-armed crane picks up the ingot and sets it down in a small pit, where it is heated for an hour and a half, so that it will become of uniform texture and hardness throughout. Then the temperature is raised and it is tempered to rolling-mill softness. Then the crane comes back and lifts it over on the bed of the mill. Trembling and writhing as if in anticipation of the stress it is about to endure, it plunges in between two big rollers, each a yard in diameter and ten feet long. Once it gets through these, it is long and slim, mayhap like a pancake, mayhap like a rod, mayhap like a bar. Again and again it goes through rollers of varying shapes, finally coming out either as a steel rail, a rod, or a plate, according to the shape of the roller and the number of rollings.

available for driving the blast engines of the furnace, illumination, etc.

When the coal has given off all its gases, a huge electric ram comes up, the door of the oven flies open, and the ram begins to push. On the other side of the oven another door swings open and out into a steel car the glowing carbon falls. An electric engine picks up the blazing load, and down the track it goes to the quenching station. Here, amid a great hissing and an immense cloud of steam, the coke is cooled down by a big stream. Then it is hauled away, dumped into a series of small bins, picked up in regulated quantities on an endless belt, and carried to a grader and screener. Thence it goes to the blast furnace, where it is mixed in proper proportions with limestone and ore, and the last process in pig-iron making begins.

How much the country may save in its natural resources is shown by the wonderful plant of the United States Steel Corporation at Gary, Ind. In a recent year more than a million tons of coal were saved—more indeed than is required to furnish light and heat and power for the nation's capital.

The third ingredient of the metallurgical wizard's boiling cauldron, the blast furnace, is limestone. Soul-mates and affinities there are a-plenty in the chemical world, but none more striking than limestone and the impurities in iron ore. The metallurgist knows the weakness of

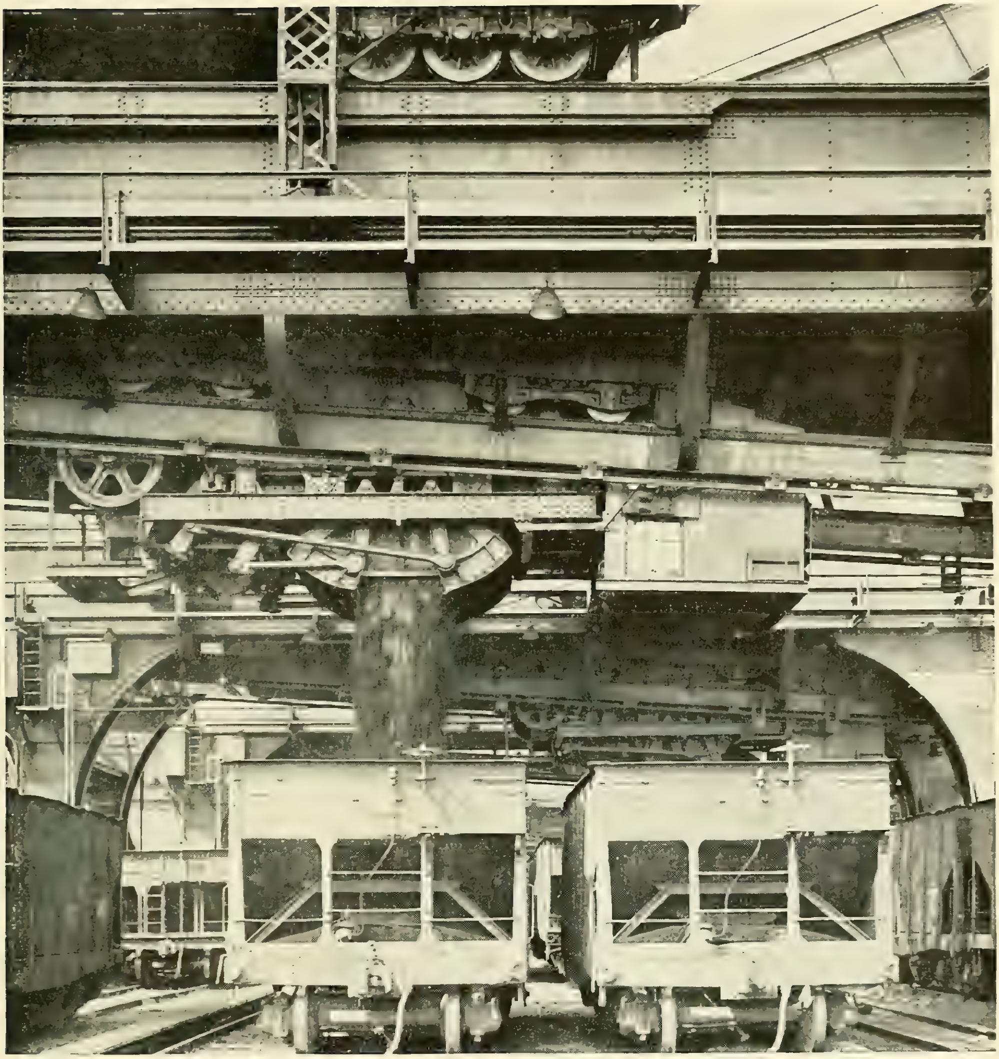
LAUNCHING A STEEL MERCHANTMAN AT NEWPORT NEWS, VIRGINIA

No war in history has had more "ifs" and "buts" about it than the one America is helping to wage today; and perhaps the most threatening is the submarine "if." Can America and her Allies turn out enough steel and wooden ships to counteract submarine destruction until the Allied armies are victorious in the field? American industry answers "Yes," and with the conviction that grows out of never yet having met a situation it was unable to master.

the bonds that bind the foreign materials in the ore to their companion iron when stressful times come. He knows that, given half a chance, they will find affinities and elope, and that's what he wants them to do; so in limestone he provides the affinities.

SOUL-MATES IN BLAST FURNACES

The modern blast furnace is a tremendous and spectacular institution. At the top it takes in coke and ore and limestone and turns loose two streams of molten material at the base. It is a large circular, silo-shaped affair, some 90 feet high, kept going day and night, Sunday and Christmas alike, year in and year out, when it does not give way under the strain. The coke, limestone, and ore are mixed in proper proportions and carried up to the top of the stack and dumped in. Down at the bottom of the furnace a tremendous air blast is driven in by huge engines, under a pressure of as much as

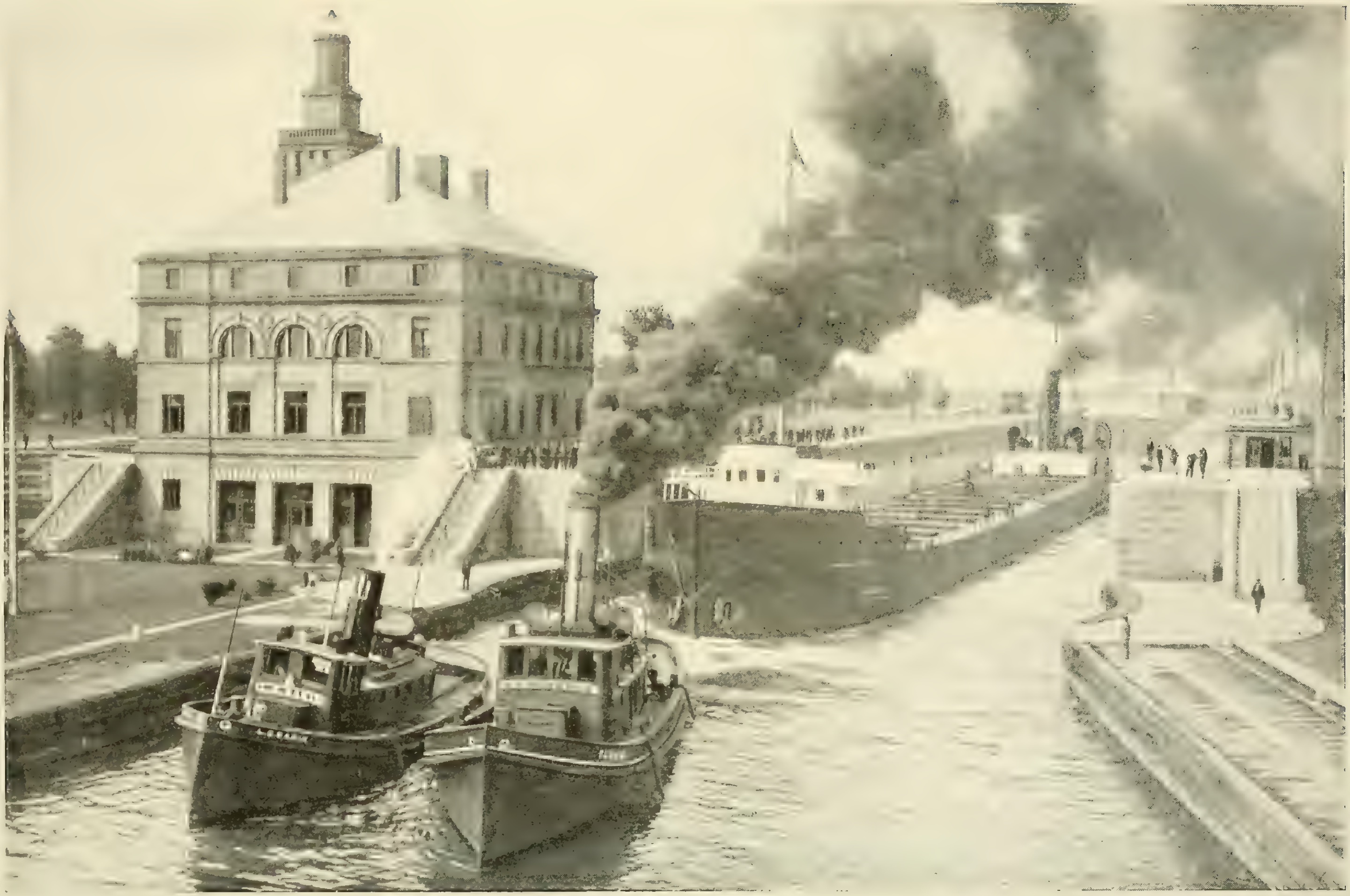


LOADING ORE INTO CARS AT ASHTABULA, OHIO

The most massive ore-handling machinery in the world is in use at this great lower lake port. Here come untold millions of tons of ore to be transhipped to Pittsburgh, Youngstown, and other blast furnace points. The big Hulett unloader dumps its burden into a bin almost as soon as it is out of the hatchway. While it is diving down into the hold for another load, the bin, which is mounted on wheels, moves away and dumps its contents into waiting cars, as seen in the picture. By the time another mouthful is ready the bin is back to receive it. The cars are standing under the rear end of the unloader, as that big mechanism is seen in the picture on page 134.

16 pounds to the square inch. A veritable inferno results, and the blast causes all the oxygen in the air to unite with the carbon and leave through the gas pipes.

The ore and the limestone melt under the ordeal and the foreign matter in the ore unites at once with the molten limestone. Being lighter than liquid iron, these newly wedded soul-mates rise to the top of the bubbling cauldron as oil rises to the top of water or cream to the top of milk. There are two holes in the lower part of the furnace. Out of the upper one of these, when tapped, come the affinities, now liquid slag, which soon hardens and is shipped away to be made into prosaic cement.



Photograph by A. E. Young

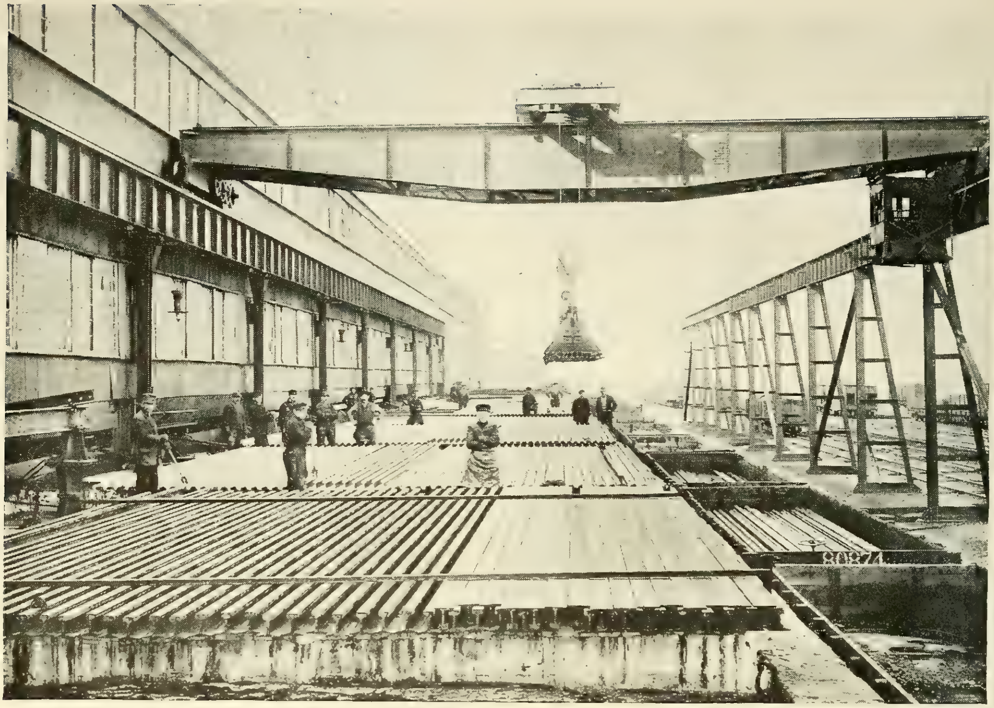
PULLING AN ORE STEAMER OUT OF POE LOCK: SOO CANAL

At Panama steamers are moved by electric towing engines operating on tracks on the lock walls. At the Soo Canal tugs perform this towing service when it is needed. Note the big lake passenger ships approaching in the background.

Photograph from Press Illustrating Service, Inc.

CHECKING AND WEIGHING SHELLS FOR THE EUROPEAN BATTLEFRONT

The demands of shell manufacture are very exacting. A variance of weight of only 1 per cent or so is allowed. The shells have to undergo from 30 to 50 operations, varying with factories, from the time the rough forging is received until the finished shell is turned out.



Photograph from Brown Brothers

LOADING STEEL RAILS IN CARS, USING AN ELECTRO-MAGNET CRANE

Feeding a blast furnace is no small job, measured by the material it has to have. Every day it wants about 800 tons of ore, 400 tons of coke, and 100 tons of limestone. But its reward to the feeders is about 400 tons of pig iron. It takes an enormous amount of air to make the furnace hum fast enough, some 37,500 cubic feet a minute at Gary. The big stoves of the furnace are of checker-like construction, resembling the radiator of an automobile. They are brought to an intense heat, and the air is then passed through their white-hot interstices before it reaches the materials to be melted. Here it makes the coke burn like "blue blazes."

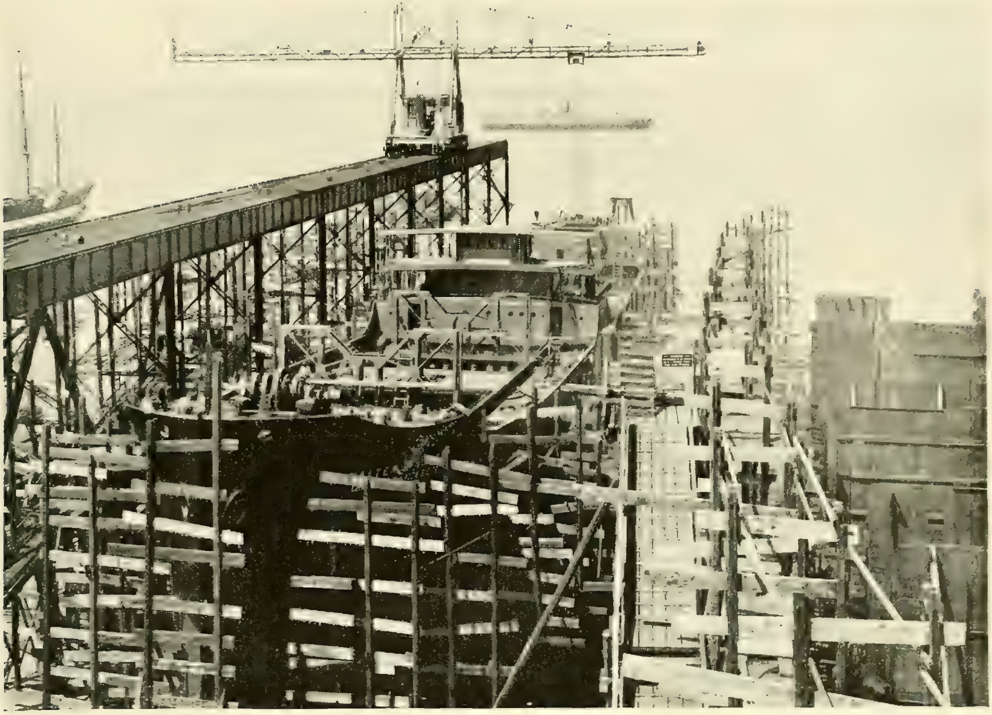
The coke now gives off vast new supplies of gas, part of which in turn comes back to heat the stoves, part to drive the big blowing engines, and another part to drive the dynamos which make electricity for operating the machinery of a great steel plant, in the case of Gary.

Running a blast furnace is indeed an exact science. The whole furnace must be water-cooled like an automobile engine, lest even the fire-brick give way under fervent heat. The rule of thumb doesn't go. Exact weights, measures, analyses, are necessary. If the slag is too acid, it will leave poor pig iron behind; if it is too limy, it will refuse to melt properly and cause "scaffolding." A classic illustration among iron men of what the rule of thumb results in is the story of the manager who got too little silica and too much limestone in his mixture and the owners lost $2,000 while he "thawed out" the "frozen" mass in his furnace, as they say in pig-iron parlance when the stuff refuses to melt.

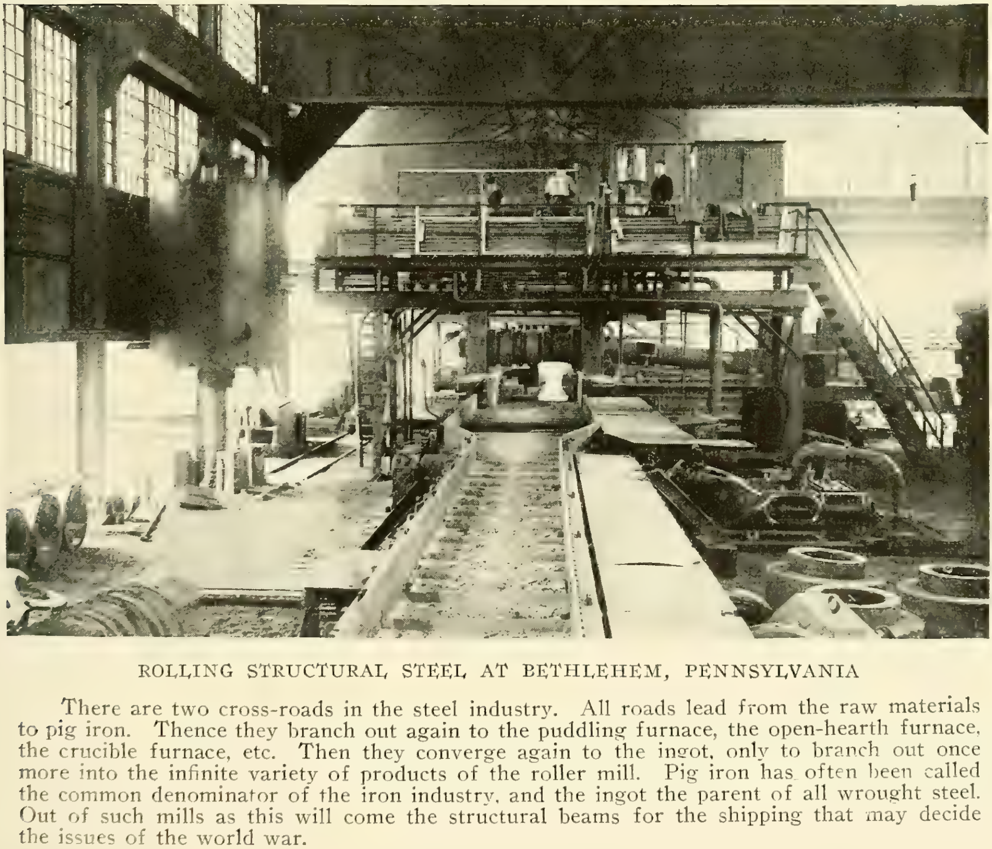
Unless the materials are carefully mixed, they will form a "scaffold" as they pass down from the top to the bottom of the furnace and while in the process of changing from solids to liquids under the spell of the heat. Once scaffolding starts, it is in danger of reaching clear across the shaft and damming up the downward flow of the materials or of "slipping"—that is, breaking loose at an inopportune moment.

IRON THAT FLOWS LIKE MILK

When the iron, now as liquid as milk, is drawn off, it is pig iron, although under modern practice it may never see a pig mold at all. At some furnaces it is still



SCAFFOLDING AROUND A SHIP UNDER CONSTRUCTION AT NEWPORT NEWS



ROLLING STRUCTURAL STEEL AT BETHLEHEM, PENNSYLVANIA

There are two cross-roads in the steel industry. All roads lead from the raw materials to pig iron. Thence they branch out again to the puddling furnace, the open-hearth furnace, the crucible furnace, etc. Then they converge again to the ingot, only to branch out once more into the infinite variety of products of the roller mill. Pig iron has often been called the common denominator of the iron industry, and the ingot the parent of all wrought steel. Out of such mills as this will come the structural beams for the shipping that may decide the issues of the world war.

Photograph from Prest-o-lite Company

THE OXY-ACETYLENE TORCH WELDS AND CUTS ALL METALS WITH EQUAL FACILITY

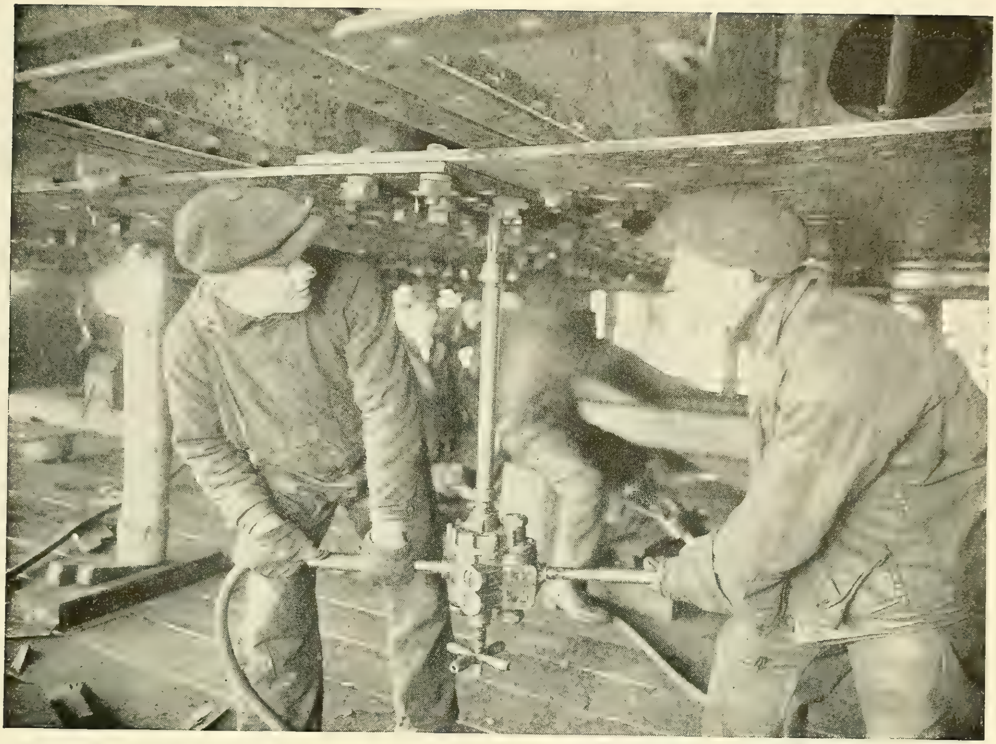
It is proving an important factor in rebuilding tools and machinery at a time when every pound of steel and iron is precious to the nation. As the hair of the dog is good for the bite, so the heat of the oxy-acetylene torch is good for its burn. When the officers in command of the interned German ships realized that their vessels were to be taken over by the United States Government, great sections of the cylinders were cut out with the powerful acetylene torch, in the expectation that the machinery would thus be hopelessly damaged. But Yankee ingenuity has employed this same torch, which develops more than six thousand degrees of heat, to weld the damaged parts, making them as strong as new. Precious months of time, hundreds of thousands of dollars, and thousands of tons of shipping have thus been saved to America.

drawn off into large cavities in sand, called "sows," and then conducted to smaller ones, called "pigs," where it is allowed to cool and harden. In others it is drawn off into metallic molds. An advance over these two methods is the machine caster. Here it is drawn off into huge ladles, some of them holding more than a carload of metal, and mixed like milk in a homogenizer. Then it is drawn off into molds mounted on an endless belt, which runs through water that cools the pigs as they pass. From the water they pass on to the pulley around which the belt turns and are dropped into the waiting railroad car, no man's hand touching the iron from the time it leaves its place in the ore bed until it is in the freight car ready for its ride to the steel mill.

In some cases, where pennies in the matter of unit costs are carefully counted, the furnace and the steel mill are in the same plant, and the pig iron is delivered in its molten condition directly to the steel-maker. But though it may never become pig, it is always known as pig just the same.

We have now followed in bold outline, and without too much attention to detail or to variations, the story of the iron industry from the imbedded ore and the unmined coal down to the last stage of pig-iron production. Up to this point all things steel have a common history. Pig iron is the common denominator of every fraction of the steel industry. Up to this point the great 200-ton casting for a powerful electric dynamo and the tiny hair-spring for the highest grade watch, the powerful 16-inch gun that weighs as much as a locomotive and the microscopic screw with threads that elude the human vision, the death-dealing shell and the peaceful plow, all come the same road. Ore bought of the land-owner at 25 cents a ton is worth $7,000,000 a ton as fine watch springs.

But once out of the blast furnace pig iron comes to the parting of the ways.



Photograph from Press Illustrating Service, Inc.

REAMING OUT RIVET HOLES WITH COMPRESSED-AIR MACHINE

The world uses sixty times as much iron and steel today as it used during the Napoleonic wars. There wasn't a mile of railroad, a foot of steel bridging, a building of structural steel, a farm implement more complicated than a grain cradle in all the world when Napoleon surrendered his dream of empire at Waterloo. And yet those best able to judge believe the hundred years to follow the present war will mark more human progress than the amazing century that followed Bonaparte's downfall.

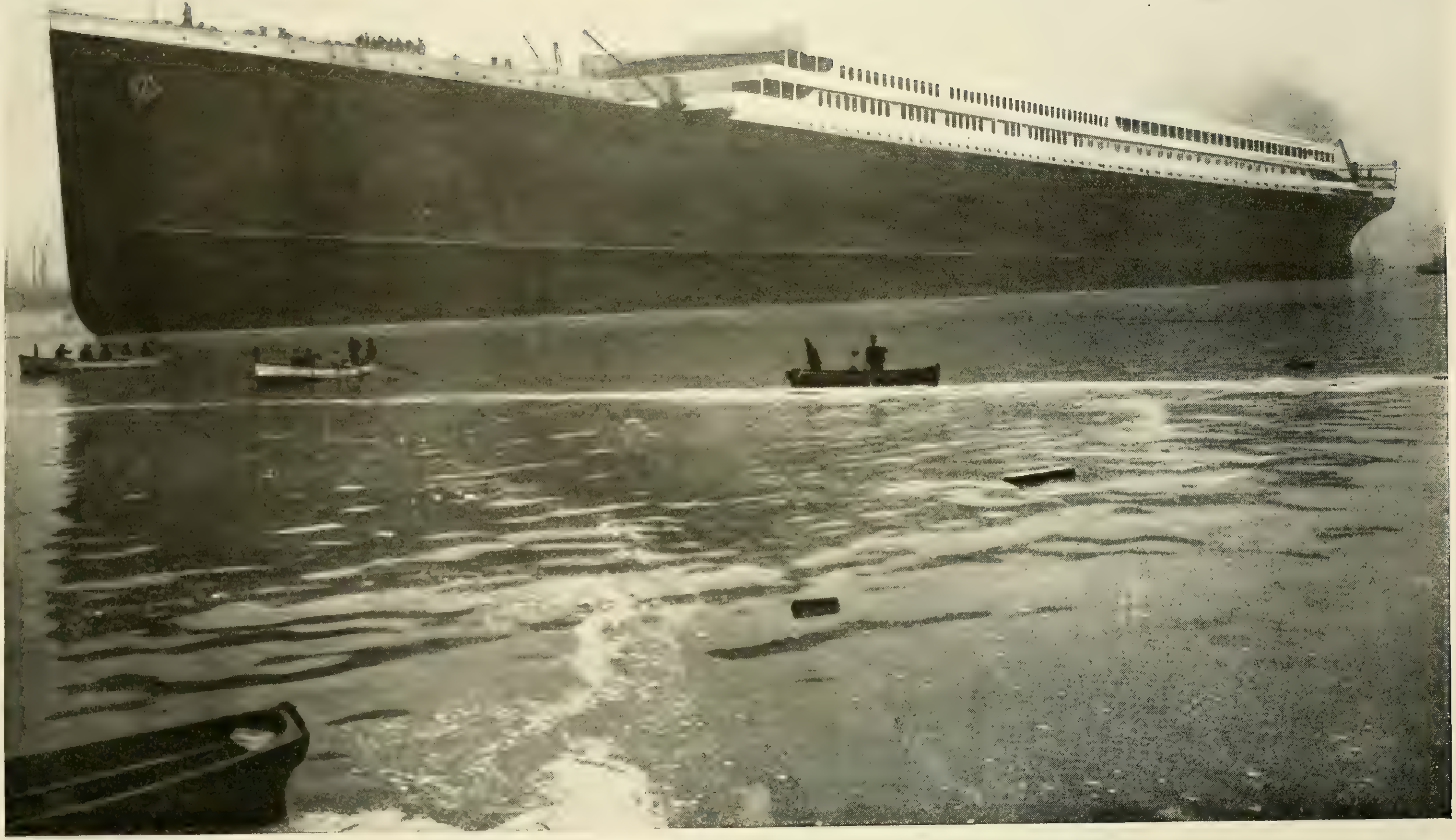
Some of it will go to the puddling furnace and become wrought iron; some will take the cupola route and become cast iron; much more will go into the Bessemer converter and become soft, malleable steel; but more still will take the path that leads to the open-hearth furnace. A little, comparatively speaking, remains behind, finds its way into a crucible furnace or an electric furnace, and becomes the tool steel of the industrial world.

KNEADING IRON LIKE DOUGH

In making wrought iron, used generally in the manufacture of chains, pipe, grills, bolts, nuts, and the like, about 560 pounds of pig iron is heated until it reaches the consistency of dough. Slag soon begins to form, and, being lighter and more fusible than the pure iron, floats to the top and the greater portion is poured off. At this stage the iron begins to form into small pasty globules, about the size of a pea, each globule surrounded by a thin covering of fluid slag.

Stripped to the waist, with arms and muscles like those of a prize fighter, the puddler for nearly an hour and a half is stirring or "puddling" the iron. He takes a bar of iron, known as a rabbling bar, which in itself would make a load for most men, puts one end through the furnace door, and turns the pigs until melted, stirring the mass so as to expose all parts of it to the action of the overhead flame until the impurities are largely eliminated. The iron is then formed into two or three pasty balls, which are taken out of the furnace dripping with slag and conveyed by means of tongs to the "squeezer," where most of the remaining slag is pressed out.

It is a strange thing about iron that



THE BRITISH STEAMER "BRITANNIC" JUST AFTER LAUNCHING

This steel palace afloat, built to carry the peaceful tourist invaders of Europe and America across the Atlantic, now lies at the bottom of the Mediterranean Sea, a victim of the ghastliest aspect of the world war—the torpedoing of hospital ships. Note the streaks of white in the foreground; they are formed by the tallow melted by the heat generated as the leviathan slid down the well-greased ways and buried her keel beneath the waves.

INDUSTRY BEHIND THE WAR: PITTSBURGH AT NIGHT

The great purification processes of the blast furnace and the steel plant are symbolical of the better international spirit the world prays will grow out of the fiery furnace of suffering in this Armageddon of history

Photograph from Brown Brothers

BUILDING FARM TRACTORS AT MINNEAPOLIS, MINNESOTA

As population at home grows more dense and demands abroad multiply, steel as a labor and food saver on the farm becomes of greater importance. When the farm tractor generally replaces the horse, it will release about 100,000,000 acres of farming land for other purposes, as it requires the products of about five acres to maintain a work horse. This totals nearly twice the area devoted to wheat growing in the United States in these dire times when the whole world is begging us for bread.

with treatment it may be given almost any degree of hardness after the heat has left it, from the soft, weak iron casting to the hard, strong tool steel. It may also be given any color from silver white to coal black. Cast iron is different from steel in hardness and in color. It can stand almost as much squeezing together as the best steel, but it is comparatively weak in resisting a pull apart. It can stand a steady strain, but a sharp blow will shatter it. In making cast iron the cupola furnace is usually used, but not always. A bed of coke is laid down, then a layer of iron, then another layer of coke, and so on. It is then fired, the iron melts and runs out, and is poured into molds. Air-brake parts, radiators, pipe fittings, etc., are examples of the uses of cast iron.

The story of Bessemer steel is one of the fascinating chronicles of the industrial world. It seems to have been one of those cases where two men working in different countries, each without knowledge of what the other was doing, reached the same conclusion about the same time. Both were granted American patents; but upon application for renewal, the Patent Office held Kelly to be the inventor. The world, however, gives the credit to Bessemer, and the process is known as the Bessemer process.

Kelly was a maker of old-fashioned cooking pots and kettles. It is related that one day he was sitting in front of his furnace and observed a point of incandescence where there was no charcoal—only the metal and the air. This led him to contend that air alone would burn out the impurities from molten iron. When he developed his tilting converter, his engineer blew such a tremendous blast through the first charge that iron and all went up as sparks, to his discomfiture and the crowd's amusement. He finally succeeded in getting the amount of air regulated, and poured out of his converter the first Bessemer steel. People said Kelly would soon be burning ice. Since his old converter was first used, billions of dollars' worth of steel has flowed out of the world's converters.

DANTE'S DREAMS OUTDONE

Both Kelly and Bessemer were baffled by the problem of regulating the supply of air so that it would not burn out all the carbon, a little of which is essential to steel. Furthermore, their products frequently proved to be brittle, owing to the fact that the molten metal absorbed oxygen from the air blast. The first difficulty was solved eventually by the expedient of burning out practically all the carbon, then adding exactly the amount required for the specific quality of steel desired. The second difficulty was overcome through the addition of manganese to take care of the hurtful oxygen. The latter suggestion was the contribution of Robert F. Mushet, a Scotch steel maker. Goransson, a Swedish ironmaster, had previously achieved the same results by using a pig iron initially rich in manganese. Thereafter underdone and overdone steel disappeared.

To go into a great building where there is a battery of Bessemer converters is to see more heat than Dante ever pictured. A converter is a huge egg swung "amidships" on trunnions. The great egg of steel lined with fire-brick has the top off. Some twenty tons of molten pig are poured into it, and then through some two hundred little holes in the bottom powerful engines pump in a stream of cold air. As the oxygen-laden air sweeps up through the molten iron, it touches the molten carbon and silicon, which constitute the impurities, and carries them away. Millions of red and white sparks fill the air, as if some demon within the fiery fluid were giving a pyrotechnic performance. A thousand engines, with safety-valves hissing under tremendous pressure, have the voice of a zephyr in comparison. First the flame that pours forth is violet, then shades into orange, becomes a dazzling white, burning finally to a faint blue, which is a sign that all the impurities are gone.

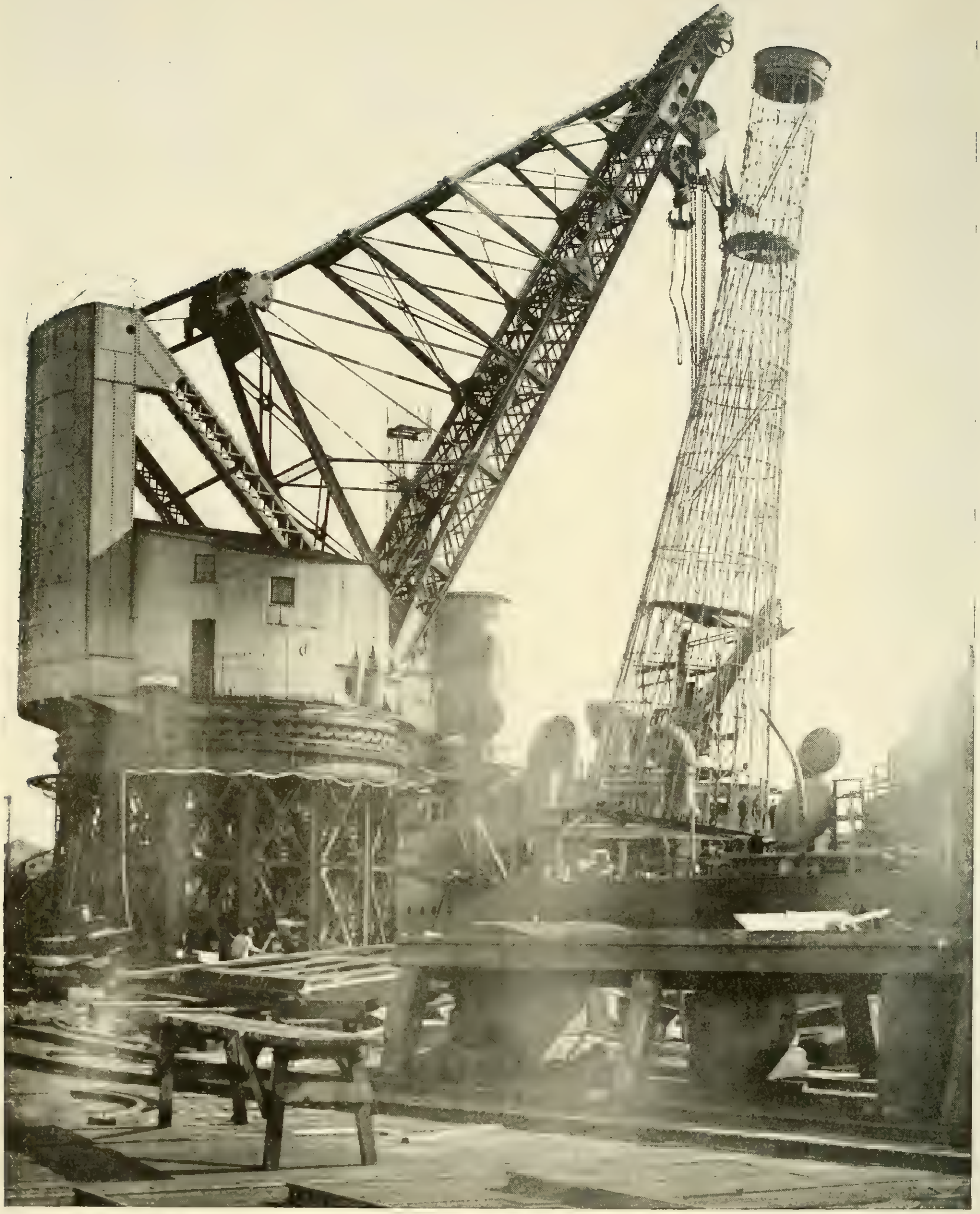
Then the blast ceases, the carbon that is necessary to replace the needed portions burnt out is added, the great brick and steel egg swings back to position, the carbon is mixed with the fervent fluid, and then the egg tips over on its side, and out of the top flows the liquid steel into a great ladle. When it is swung back into position, a man with colored glasses walks out over the converter and peers down into its white-hot depths to see if the heat from the last charge has melted away any of the fire-brick lining. If it has, he hurls balls of putty-like clay down into the holes to stop them up, or sets a crew of workmen to patching the damaged shell. This done, the big egg swings back again, gets another charge of molten iron, and begins the process over again. The whole operation takes about 20 minutes—a ton of steel a minute. Bessemer steel is used for structural material, railroad rails, wire, and pipe.

In 1900 there was twice as much steel produced in the United States by the Bessemer as by the open-hearth process. But with the rapid exhaustion of ores having the proper amounts of phosphorus for converter practice, the open-hearth furnace, which can use with equal success ores which contain either a large or a small amount of phosphorus, largely replaced the Bessemer converter.

A TINTED POOL OF LIGHT

An open-hearth furnace looks a good deal like an ordinary bake-oven; but when one looks in through the water-cooled door, a vast difference appears. Instead of pans of fragrant, fat loaves of baking bread, there is an imposing pool of fiery liquid as bright as the filament of a high-power tungsten lamp, so dazzling that it can be examined with safety to the eyes only by those using colored glasses. Tinted here and there with streaks of soft blue and dainty pink, it looks like melted stick candy.

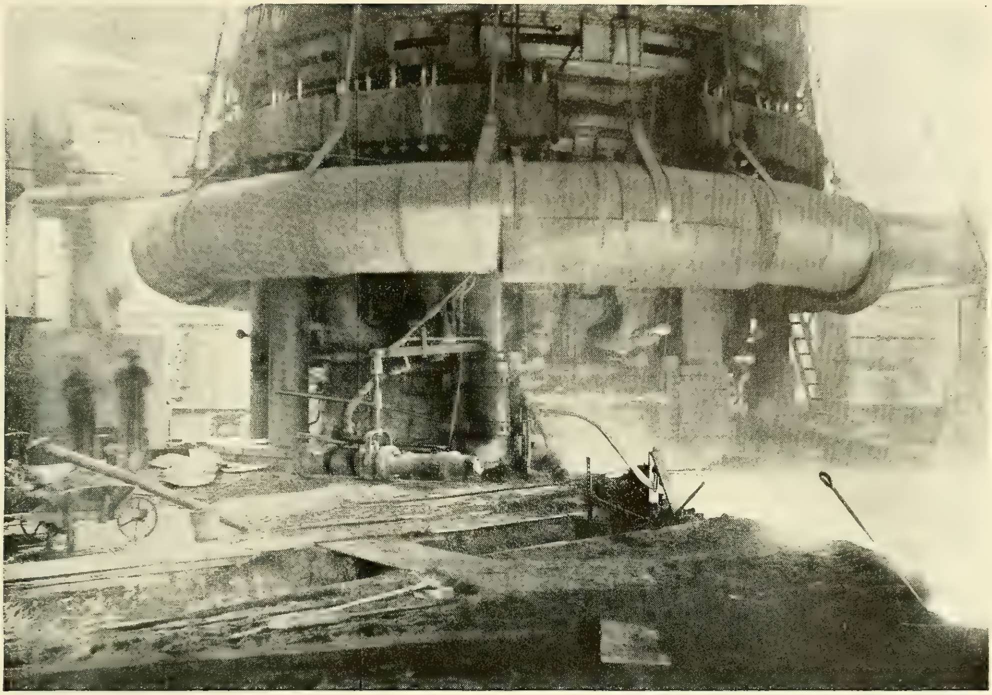
In preparing a battery of open-hearth furnaces for a charge, finely ground dolomite is shoveled in first. This melts like glass and fills up all cracks and crannies caused by the powerful heat of the



Photograph by E. P. Griffith

A GIANT CRANE SETTING UP A FIGHTING MAST ON THE DECK OF A BATTLESHIP

Lifting 150 tons with the ease of a farmer "shouldering" a bag of wheat, these big electric cranes will do their bit in combatting the German submarine by making it possible to speed up the capacity of every shipbuilding plant in America.



Photograph from Carnegie Steel Company

GIANT BLAST FURNACE, SHOWING A PORTION OF THE APPARATUS WHICH SUPPLIES THE FORCED DRAFT

The modern blast furnace is a tremendous and spectacular institution. At the top it takes in coke and ore and limestones and turns loose two streams of molten material at the base. It is a large, circular, silo-shaped affair, some 90 feet high, kept going day and night, Sunday and Christmas alike, year in and year out, when it does not give way under the strain.

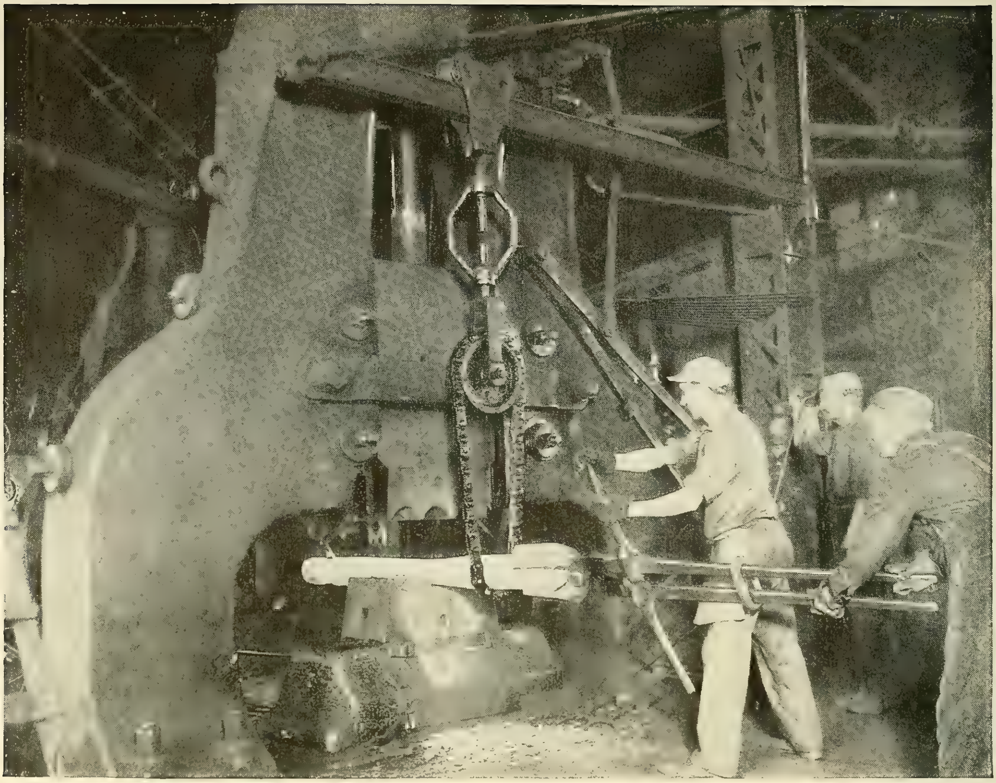
preceding charge. Then a little train rolls up before the battery, and an electric crane dumps box after box of scrap metal from the cars into the furnaces. Off some distance is a great steel tank lined with fire-brick and full of liquid pig metal.

This big tank is called a mixer, and in it hundreds of tons of the flowing, glowing iron are mixed. Thus homogenized, the contents of the mixer are drawn off into a giant ladle, like water from a spigot, carried across to the furnace by an electric crane and poured into it. Every now and then, as the process goes on, a laborer puts a shovelful of limestone into the mixture to coax off its affinities that remained behind when the ore was under conversion into pig metal.

When the scrap has melted and the contents of the cauldron are cooked enough; when the impurities have been driven out and tolled away, the fiery broth is "seasoned," as it were, with the proper amount of carbon, spiegel, ferro-manganese, tungsten, ferro-silicon, vanadium, or whatever is necessary to give the desired character to the resulting steel.

Then comes the tapping of the furnace. An electric crane lifts a great ladle into position, a workman jams a crowbar through a clay-plugged hole at the base, and out flows the frenzied stream into the ladle. The slag rises to the top like oil on water and overflows, congealing on the outside of the ladle. Then the big crane picks up the ladle, swings it over to the pouring platform, where it in its turn is tapped and its purified fluid run off into molds.

Great care has to be taken in handling these ladles, for the presence of a few drops of moisture when the hot metal is poured into it might cause an explosion and loss of life. Just before they receive the molten metal the ladles are heated nearly white hot in order that the steel or iron may not chill in them.



Photograph from Carnegie Steel Company

A DROP HAMMER FORGING AN AXLE FOR A RAILROAD CAR

The hand that turns the axle rules the commercial world. Industry waits upon the railroad, and the railroad waits upon the mill which makes its equipment.

As fast as they are filled the ladles are swung out over the ingot molds and the liquid steel is run into them and allowed to cool and take its solid form. It is as if water were poured into molds and set in a refrigerating machine to freeze into blocks of ice. The only difference is that the "freezing" point of steel is away above the boiling point of water.

There are two other important types of steel furnaces—the crucible furnace and the electric furnace. In both of them the idea is to keep all hurtful gases and other impurities out and to regulate the addition of alloys and oxygen destroyers to a nicety. In a crucible furnace the metal is placed in graphite clay pots, covers are put over them, and the pots subjected to great heat. Silica is gradually absorbed out of the clay in the pots and transformed into silicon by coming into contact with the carbon in the steel. The silicon in its turn absorbs the oxygen and thus quiets the frothing, foaming contents of the kettle.

CROSS-ROADS IN THE STEEL INDUSTRY

The electric furnace acts in much the same way, its heat being so pure that there is no necessity of putting the steel in covered pots to keep out gases and other impurities. An electric arc, established between huge electrodes and the surface of the slag, produces the heat in such a furnace. By varying the materials used in the formation of the slag any impurity can be wooed off and the glowing steel left as pure as crystal. The alloys are then mixed with the steel and it is made fit for any use desired. It is drawn off into ladles and poured into ingot molds, where it hardens, ready to be worked up into those things that constitute the last word in fine steel.

As all roads in the iron industry lead up to pig iron, so all roads in the field

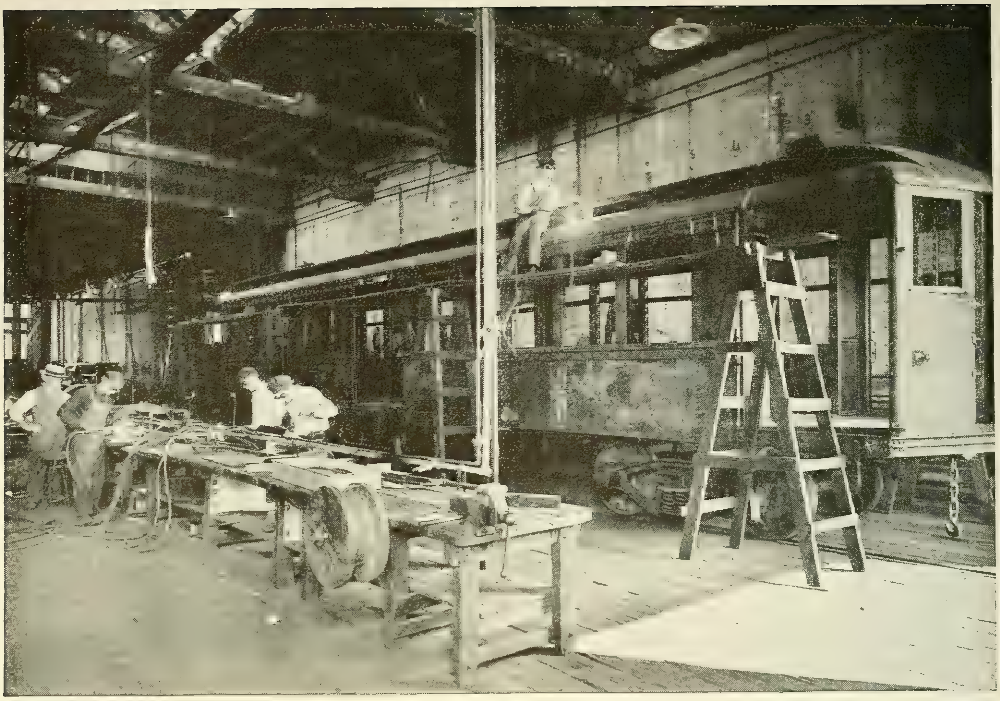
Photograph from Carnegie Steel Company

MONSTER SHEARS CLIPPING STEEL SLABS WITH AN EASE AND SMOOTHNESS WHICH SUGGESTS PARING CHEESE

The capital employed in the steel industry of the United States is greater than the national wealth of Switzerland. The Republic of Portugal—land, improvements, industrials, everything—is not worth as much by a billion dollars as America's steel products were in the single year 1914, a year in which a ton of pig iron sold for less than one-third present quotations.

of finished steel products lead back to the mold. Whether it be a huge girder, a steel rail, a giant shaft, a locomotive drive wheel, a hundred-ton gun, a 14-inch shell, a physician's scalpel, or a pocket-knife, the mold is mother of them all.

And the nemesis of all these products is rust, for iron and steel alike, when exposed to the elements of the air, undergo oxidation, as if yearning to return to that form in which they were taken from the earth. Government experts have estimated that 23 per cent of all iron and steel is destroyed each year through rust, a truly appalling waste to contemplate. Numerous methods are employed to check this tendency to rust. Surfaces are covered with resins, oils, paints, and metallic compounds. One of the most successful of these protective methods, widely used in the automobile industry, is known as the Parker process, perfected



BUILDING MODERN STEEL PULLMANS, THE ACME OF COMFORT AND SAFETY

One of the most striking examples of the improvement of transportation facilities in the march of progress is to be found in the present-day Pullman car, a direct descendant of one of the two parent wooden coaches remodeled into sleeping compartments by a cabinet-maker, George Mortimer Pullman, in 1859. The steel coach is a development of the last few years. It has minimized the number of fatalities consequent to railway accidents and is therefore a notable step forward along the line of economic progress.

by a mechanical and research engineer of Michigan.

Would you know the size of the American steel industry? Then reflect that even before the great world war broke out, even in the slack and uncertain days of 1914, it employed more people than live in Nevada, Arizona, New Mexico, and Wyoming together — four States whose aggregate area is more than twice that of all Germany. The capital employed is greater than the national wealth of Switzerland. The Republic of Portugal — land, improvements, industrials, everything—is not worth as much by a billion dollars as America's steel products were in the single year 1914, a year in which a ton of pig iron sold for less than one-third present quotations, and a ton of steel likewise.

Think of an ore train so long that it would take a fortnight to pass a given point, running at full freight-train speed and never stopping! Think of ore ships moving in column formation and stretching from Detroit, Mich., to Erie, Pa.! Think of a row of blast furnaces reaching from New York City to Chester, Pa.; of a column of rolling mills and puddling furnaces reaching from New York to Indianapolis! Think of a stream of ten tons of liquid iron flowing out as molten pig metal every second of the year!

Then you will begin to get a picture of the vastness of the steel industry. It is steel, steel, steel, everywhere and always — steel for guns, steel for shells, steel for ships. Without American steel the German submarine would conquer the oceans, the German war machine would starve our Allies, overrun France, master Russia, and work its own good pleasure upon all the earth. But with American steel that can never be done. The road to victory for autocracy has been closed by the unyielding gate which American industry has put across its path.

MECCA THE MYSTIC

A New Kingdom Within Arabia

By Dr. S. M. Zwemer

OF ALL the provinces of Arabia, El Hejaz, which recently revolted against Turkish rule and set up its own kingdom, with the Grand Sherif of Mecca as sovereign, undoubtedly has most frequent contact with the outside world, yet is the least known. Parts of it have never yet been explored.

El Hejaz is so named because it forms "the barrier" between Tehama, the coast province on the south, and Nejd in the interior. Its sole importance is due to the fact that it contains the two sacred cities, Mecca and Medina, which for more than thirteen centuries have been the centers of pilgrimage for the Moslem world.

Before the railway was completed from Damascus to Medina, the port of that city, Yenbo, was as flourishing as Jiddah is now; but at present it has almost the appearance of a deserted city. The whole pilgrim traffic has been diverted, and even the caravan route from the coast to Medina is at present unsafe.

The importance of Mecca is not due to its resident population of perhaps 100,000, but to the more than 200,000 pilgrims who visit it each year from every nation of Islam. Statistics are hopelessly contradictory and confusing regarding the number of annual visitors. According to Turkish official estimates, in 1907 there were no less than 280,000 pilgrims. It is a marvel how so many thousands can find food, shelter, and, most of all, drink in such a desert city.

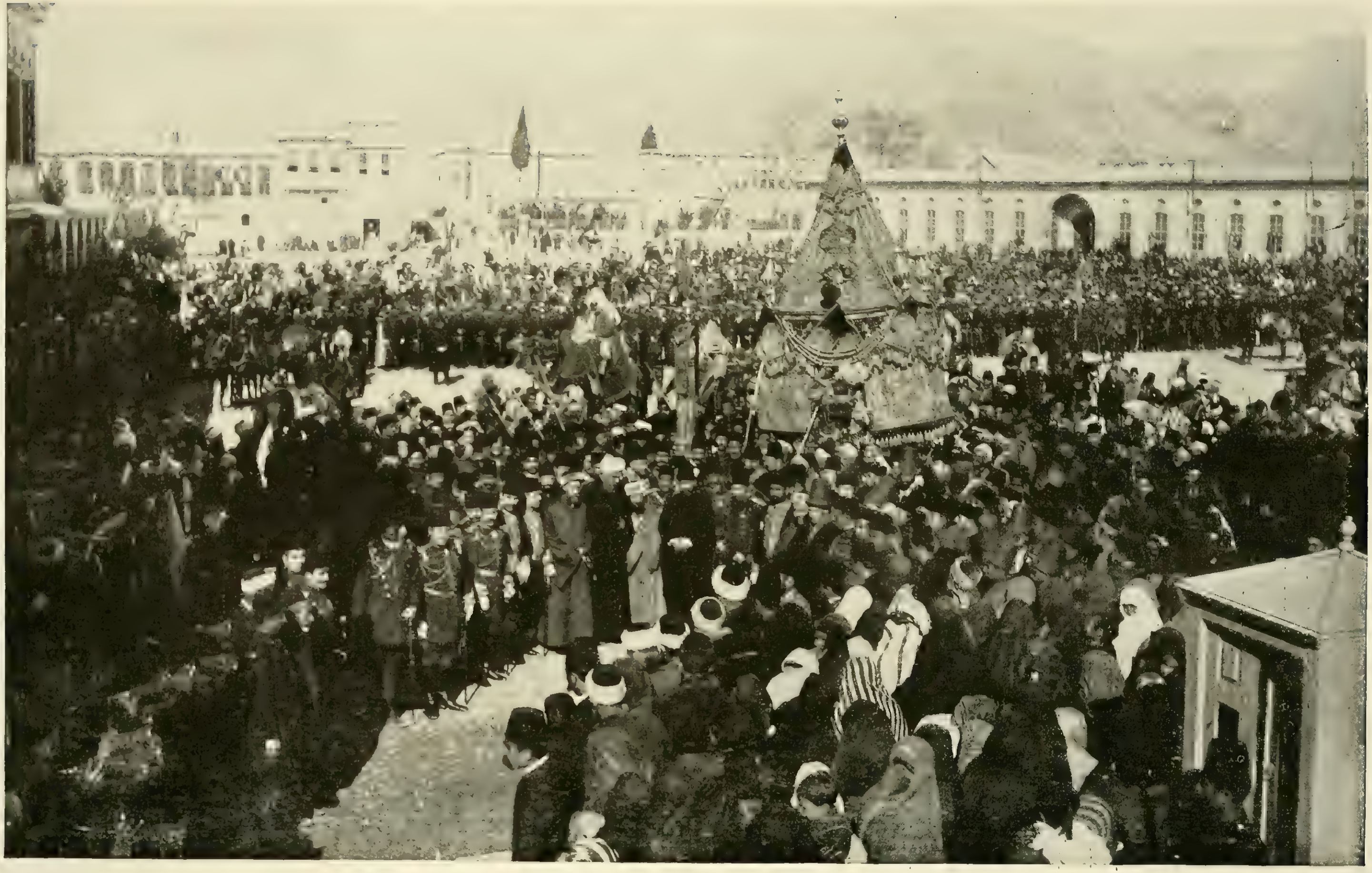
The religious capital of Islam, and now the temporal capital of the new Kingdom of Arabia, affords an index to the growth and strength of Mohammedanism in various parts of the world, for one can rightly gauge the strength of religious fervor in this great non-Christian faith by the number of those who go on pilgrimage.

From Java, Bengal, West Africa, Cape Colony, and Russia, as well as from the most inaccessible provinces of China, they come every year and return to their native land—if they escape the hardships of travel—to tell of the greatness and glory of their faith, however much they may have been disappointed in the actual condition of the city and its sacred buildings.

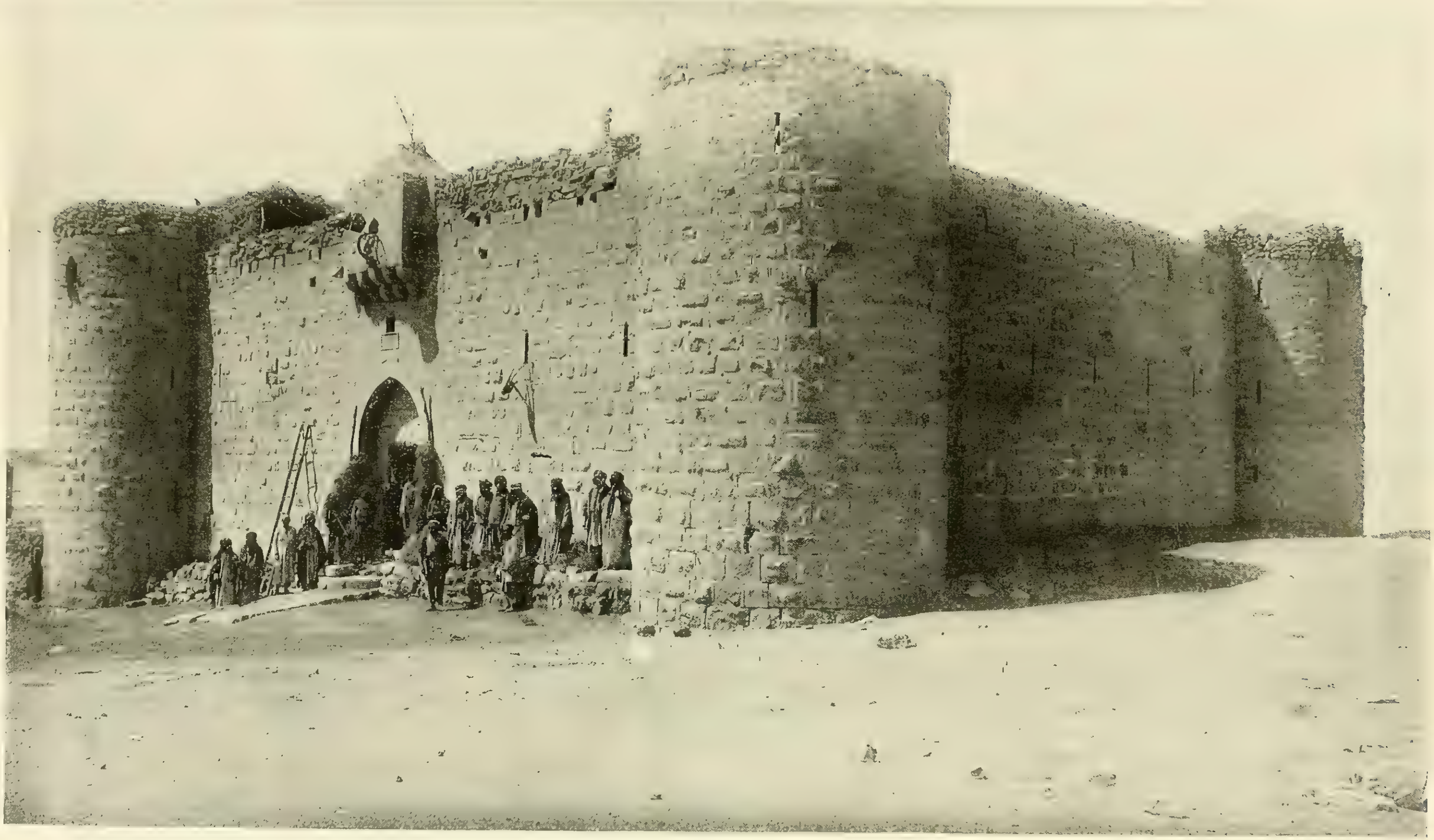
MOHAMMED'S PROPHECY FULFILLED

When we consider Mecca, Mohammed's words of prophecy in the second chapter of his book seem to have been literally fulfilled: "So we have made you the center of the nations that you should bear witness to men." The old pagan pantheon has become the religious sanctuary and the goal of universal pilgrimage for one-seventh of the human race. From Sierra Leone to Canton, and from Tobolsk to Cape Town, the faithful spread their prayer carpets, build their houses (in fulfillment of an important tradition, even their outhouses!), and bury their dead toward the meridian of Mecca. If the Old World could be viewed from an aëroplane, the observer would see concentric circles of living worshipers covering an ever-widening area, and one would also see vast areas of Moslem cemeteries with every grave dug toward the sacred city.

Mecca is no longer a veiled city. A score of intrepid travelers have unveiled it. From Bartema, Wild, and Joseph Pitts to Burton, Burckhardt, Hurgronje, and Courtellemont, they took their lives in their hands, herded with strange companions, underwent untold hardships, and by luck or pluck came scatheless out of this lion's den of Islam. According to Doughty, scarcely a pilgrimage takes place without some persons being put to death as intruding Christians. An edu-

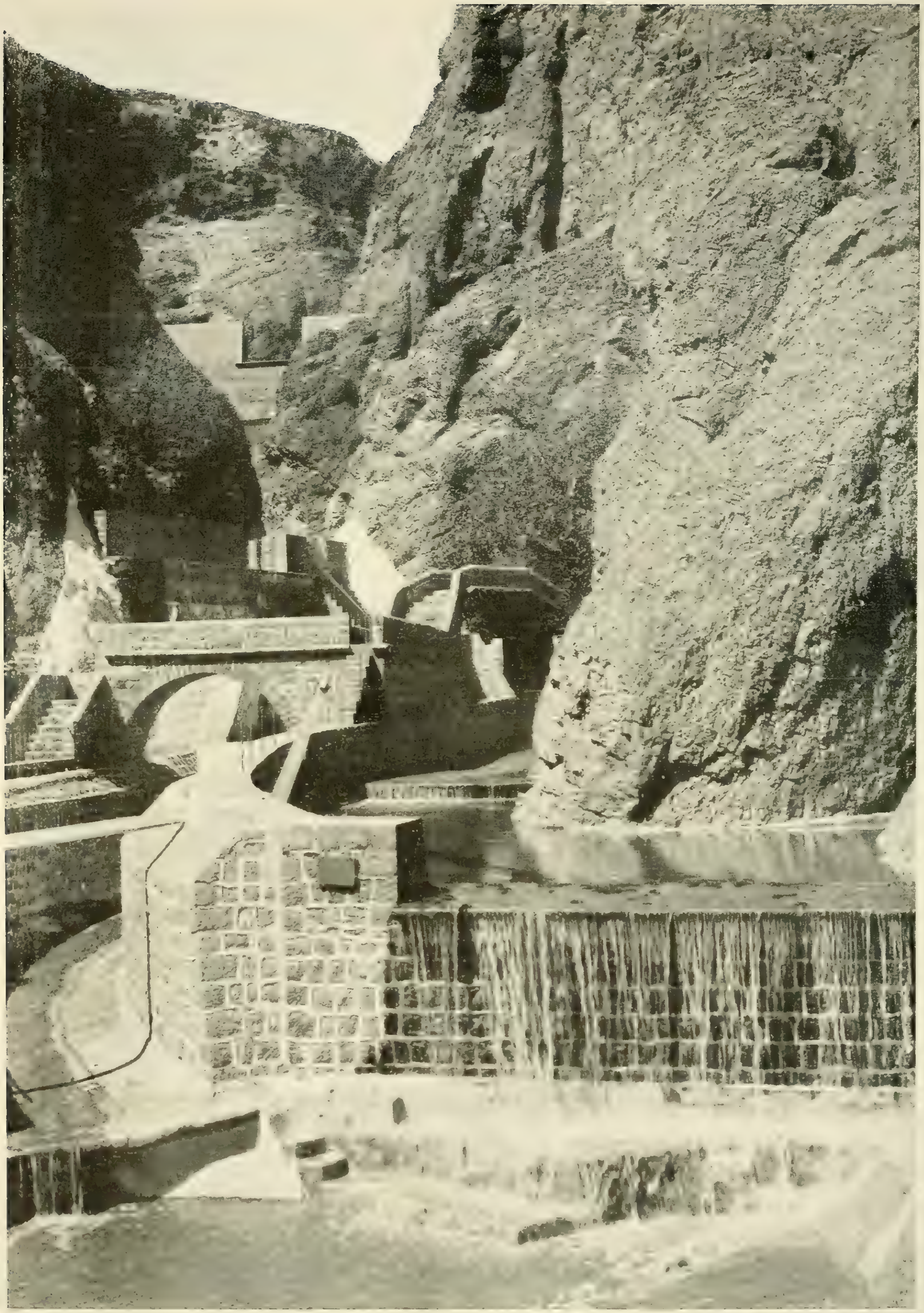


PILGRIMS ASSEMBLED IN DAMASCUS ABOUT TO BEGIN THE JOURNEY TO MECCA, BEARING WITH THEM THE HOLY CARPET FOR THE MOHAMMEDAN SHRINE



AN ARABIAN FORT FORMERLY USED AS A PLACE OF REFUGE AND SHELTER FOR PILGRIMS ON THEIR WAY TO MECCA

The construction of the Pilgrims' railway has minimized the importance of these forts to the faithful, but in olden days they were a welcome protection from marauders and robbers who infested the routes to the holy cities of Mecca and Medina



Photograph by Charles E. Moser

THE FAMOUS TANKS OF ADEN, SET DEEP IN THE POCKETS OF SURROUNDING HILLS, WHERE THEY CATCH AND STORE THE SCANT RAINFALL OF THIS REGION OF ARABIA

Who built these great reservoirs archæologists will not venture to say definitely, but they are supposed to have been the work of the Hemyarites, the enlightened sons of Sheba's queen. They are supposed to be 1,500 years old, and for centuries they were filled with debris and forgotten. An English officer excavated them in 1856 and found their masonry still intact.

Photograph by Charles E. Moser

TWILIGHT ON THE SHORES OF THE RED SEA

cated and pious Moslem here in Cairo assured me only a few months ago that when he went on pilgrimage and took pictures of the city his life was endangered more than once by the fanaticism of the inhabitants. However, there are many who believe that the opening of the Hejaz Railway, especially as a branch is to be carried to Jiddah, the breaking up of Turkish power in Arabia, and the establishment of the new kingdom will mean the removal of restrictions against non-Moslems.

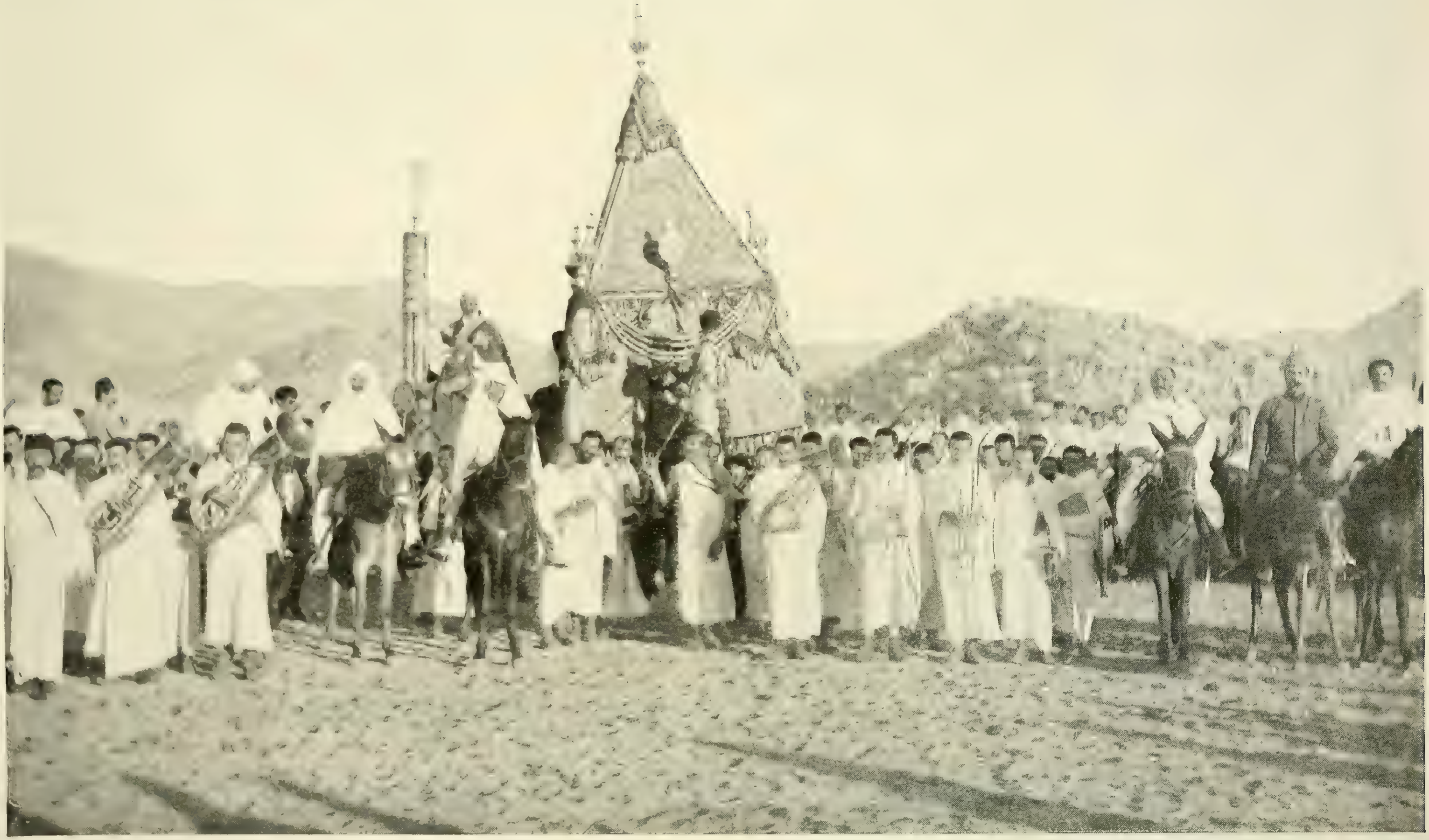
On a recent visit to Jiddah, the port of Mecca, I was able not only to take some good photographs myself of that port of entry and learn particulars in regard to the pilgrim traffic, but I sent a telegram to Mecca to a leading Moslem photographer, whose establishment is not far from the Ka'aba itself, and received by registered post a number of beautiful photographs which I am glad to share with the readers of the NATIONAL GEOGRAPHIC MAGAZINE.

Jiddah is a town of about 50,000 inhabitants, of whom 100 are Europeans. It has only four leading mosques, but 30 inns, and one large enough to be called a hotel. None of them, however, is a fit place for the European tourist.

ONLY INDUSTRY IS FLEECING PILGRIMS

The only industry of Jiddah is fleecing pilgrims. Cisterns are kept near every house and filled with rain water, which is sold in the pilgrim season at a high price. At one time the governor of the Hejaz laid pipes from a spring of water 10 kilometers from the town, but when the pipes were worn out the people opposed the reconstruction of this public utility, as it interfered with their perquisite of water-selling. The Turkish Government itself receives as revenue from the pilgrims about $250,000 every year, and it is a well-known fact that the slave trade, both here and at Mecca, is still carried on. Many of the pilgrims from the Sudan and Somaliland do not scruple to sell even their own children in these slave markets!

The mixture of races in Hejaz province for so many centuries has not been conducive to morals or good government. No one who has read the account of social life at Mecca, as given by Hurgronje and other travelers, including Moslem



Photograph by Rev. Samuel M. Zwemer

THE SYRIAN MAHMAL ON ITS WAY TO MECCA

The Mahmal is an annual present of tapestries, gold specie, or other gifts sent by various Moslem countries to the Grand Sherif of Mecca. The beautiful Ka'aba covering, woven of silk and cotton tissue in a factory at Cairo and renewed every year, is sent with the Egyptian Mahmal.

pilgrims themselves, can doubt the need for social reform in this city. Mecca is the microcosm of Islam in its religious life and aspirations. According to Hurgronje, "It is Islam, the official religion, which brings together and amalgamates all the heterogeneous constituents ot Meccan life. On the other hand, this society itself welds into a chaotic whole the prejudices and superstitions of all countries." In other words, Mecca is the sink-hole of Islam. All witnesses agree as to the flagrant immorality which pervaded the streets, and even the mosque, of the sacred city, the prevalence of the slave trade, the fleecing of pilgrims, and the corruption of the late Turkish Government.

The Turkish prison is an indication of the backward state of prison reform in this part of the world. The prisoners were kept in wooden stocks in dark rooms and there was no sanitation whatsoever, with the temperature in the shade often 110 degrees Fahrenheit. No food was provided by the government, and unless a man's friends or kindly charity intervened he was apt to die of starvation. All the machinery of government moved clumsily at so great a distance from the Sublime Porte.

EVERY PILGRIM HIS OWN POSTMAN

Although there is a telegraph service between Mecca and Jiddah, the wires are often out of order, and most of the telegrams received during the pilgrim season fail to reach the addresses. The post-office at Mecca under Turkish régime was certainly unique. A recent writer tells us how "the sacks of letters are thrown out into the narrow street leading to the post-office and there sorted by the pilgrims themselves, who open them and take their letters and those of their friends also." A similar system prevailed at Medina, Yenbo, and Jiddah. All this may be changing under King Husein, who has already taken steps to join the International Postal Union and has had stamps printed in Egypt bearing the inscription "Hejaz Post."

The commerce of Mecca is entirely in the hands of foreigners, mostly Indians, who sell rosaries, carpets, and silk stuffs. One of the main occupations of the silversmiths is the manufacture of rings. which are supposed to be constructed from silver that was once part of the sacred temple doors, and are reputed to be an effective remedy for certain ills Most of the natives, however, earn their living as guides to the pilgrims and grow wealthy during the season. If each of the pilgrims spends $25, which is a low average, the aggregate income of the city would be $5,000,000; so one is not surprised to see a number of stately houses at Mecca and the display of considerable wealth.

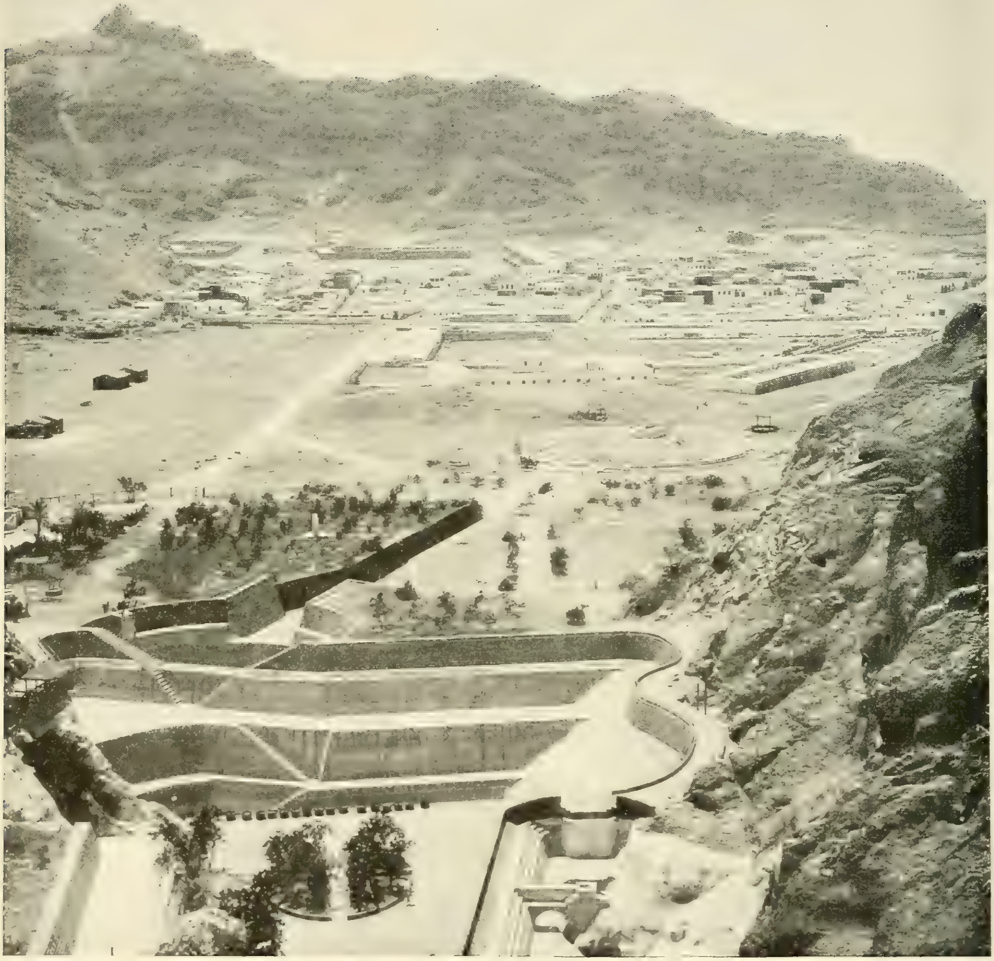
The earliest settlements at Mecca were undoubtedly due to the fact that the caravan trade from South Arabia northward found here a stopping place near the spring of Zem Zem, long before the time of Mohammed, just as the early Roman settlements at Wiesbaden and other places in Germany were so located because of the medicinal waters.

The sacred mosque, *Mesjid el Haram*, with the Ka'aba as its center, is located in the middle of the city. Mecca lies in a hot, sandy valley, absolutely without verdure and surrounded by rocky, barren hills, destitute of trees or even shrubs. The valley is about 300 feet wide and 4,000 feet long and slopes toward the south. The Ka'aba, or House of God (*Beit Allah*), is located in the bed of the valley. All the streets slope toward it and it stands, as it were, in the pit of a theater.

THE BLACK STONE, MECCA'S OLDEST TREASURE

The houses in Mecca are built of dark stone and are elevated in order to accommodate as many pilgrims as possible The streets are nearly all unpaved. In the summer they are full of dust, and in the rainy season—which, fortunately, is not frequent—they are black with mud.

Strangely enough, although the city is poorly provided with water except for the famous spring of Zem Zem, Mecca has suffered more than once from destructive floods, which, tearing down the narrow valley, have destroyed buildings and damaged even the Ka'aba. A terrible inundation took place on the 23d of



Photograph from Charles E. Moser

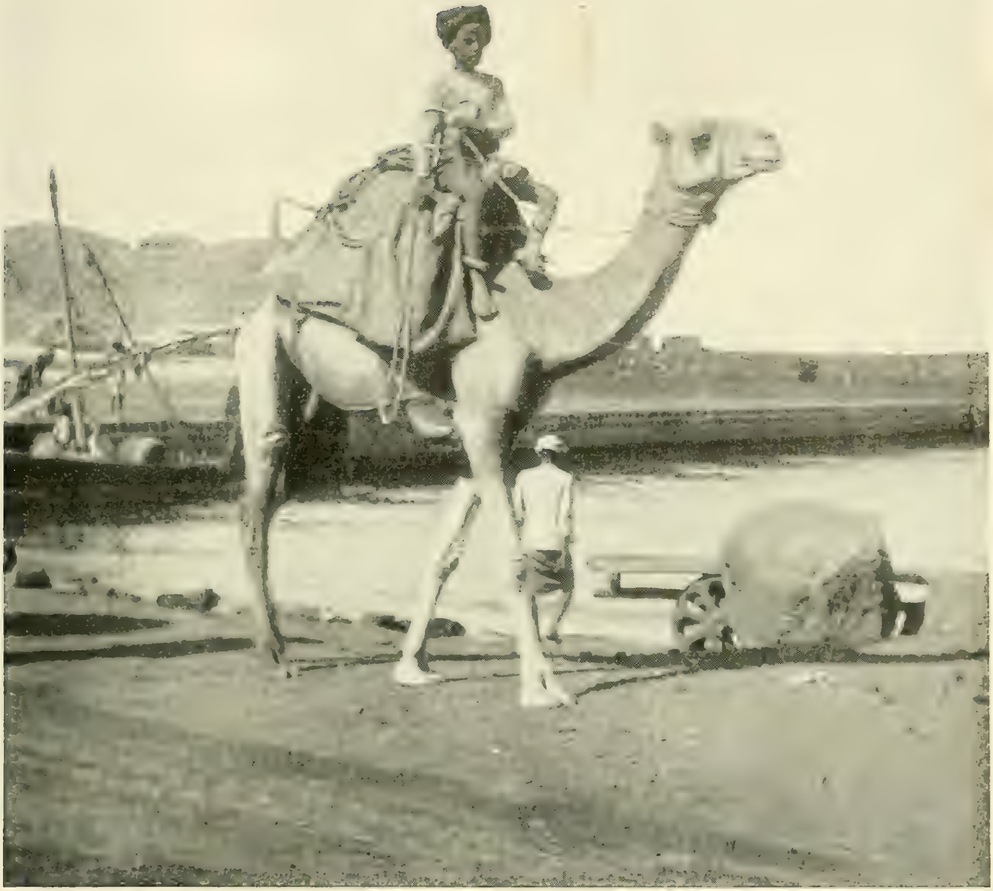
A VIEW OF ADEN FROM THE TANKS: ARABIA

This British seaport, which stands guard at the southeastern entrance to the Red Sea, nestles in the crater of an extinct volcano, whose rugged walls are plainly seen in the background. The tanks provide a part of Aden's limited water supply.

Dhu'l Hajj, 1327 A. H. (1909). The water reached nearly to the door of the Ka'aba and the whole court was inundated.

The Ka'aba proper stands in an oblong space 250 paces long and 200 broad, surrounded by colonnades, which are used as schools and as a general meeting place for pilgrims. The outer inclosure has nineteen gates and six minarets; within the inclosure is the well of Zem Zem, the great pulpit, the staircase used to enter the Ka'aba door, which is high above the ground, and two small mosques called El Kubattain. The remainder of the space is occupied by pavements and gravel, where prayers are said by the four orthodox sects, each having its own allotted space.

In the southeast corner of the Ka'aba, about 5 feet from the ground, is the famous Black Stone, the oldest treasure of Mecca. The stone is a fragment resembling black volcanic rock, sprinkled with reddish crystals, and worn smooth by the touch of centuries. It was undoubtedly



Photograph by Charles E. Moser

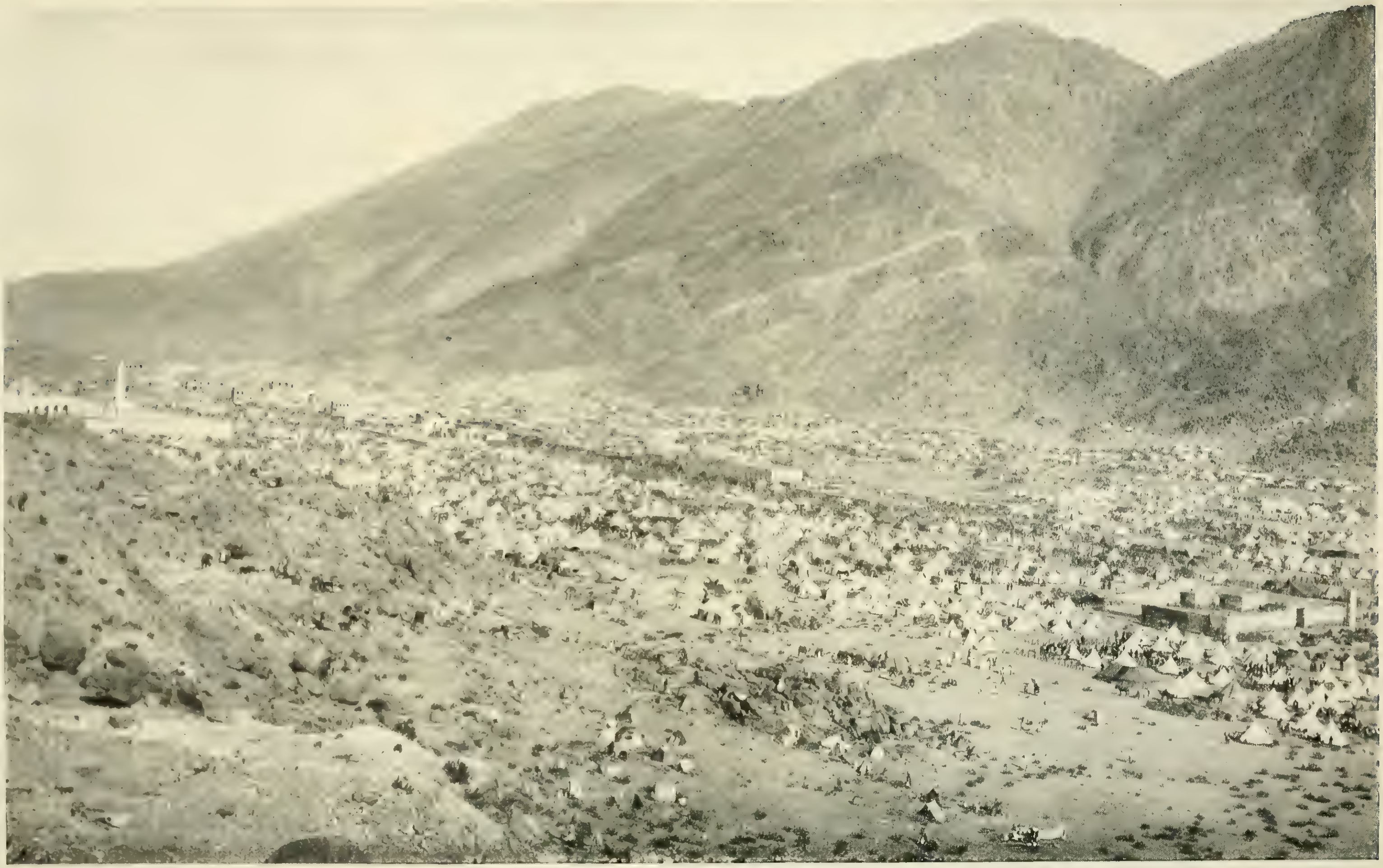
A KHAT CARRIER OF YEMEN

"About 11 o'clock in the morning the khat camels come winding leisurely along the isthmus road from the interior." The khat plant grows far removed from the salt air of the sea and requires a cool, even temperature, flourishing at elevations between 4,000 and 6,000 feet.

an aërolite and owes its reputation to its fall from the sky. Moslem historians do not deny that it was an object of worship before Islam. In Moslem tradition it is connected with the history of the patriarchs, beginning as far back as Adam.

The word Ka'aba signifies a cube, although the measurements, according to Ali Bey, one of the earliest writers who gives us a scientific account of the pilgrim ceremonies, do not justify its being called so. Its height is 34 feet 4 inches, and the four sides measure 38 feet 4 inches, 37 feet 2 inches, 31 feet 7 inches, and 29 feet. The cloth covering is renewed every year. At present it is made of silk and cotton tissue woven at El Khurunfish, a factory in Cairo. The time of departure of the annual procession which takes it to Mecca is one of the great feast days in Cairo.

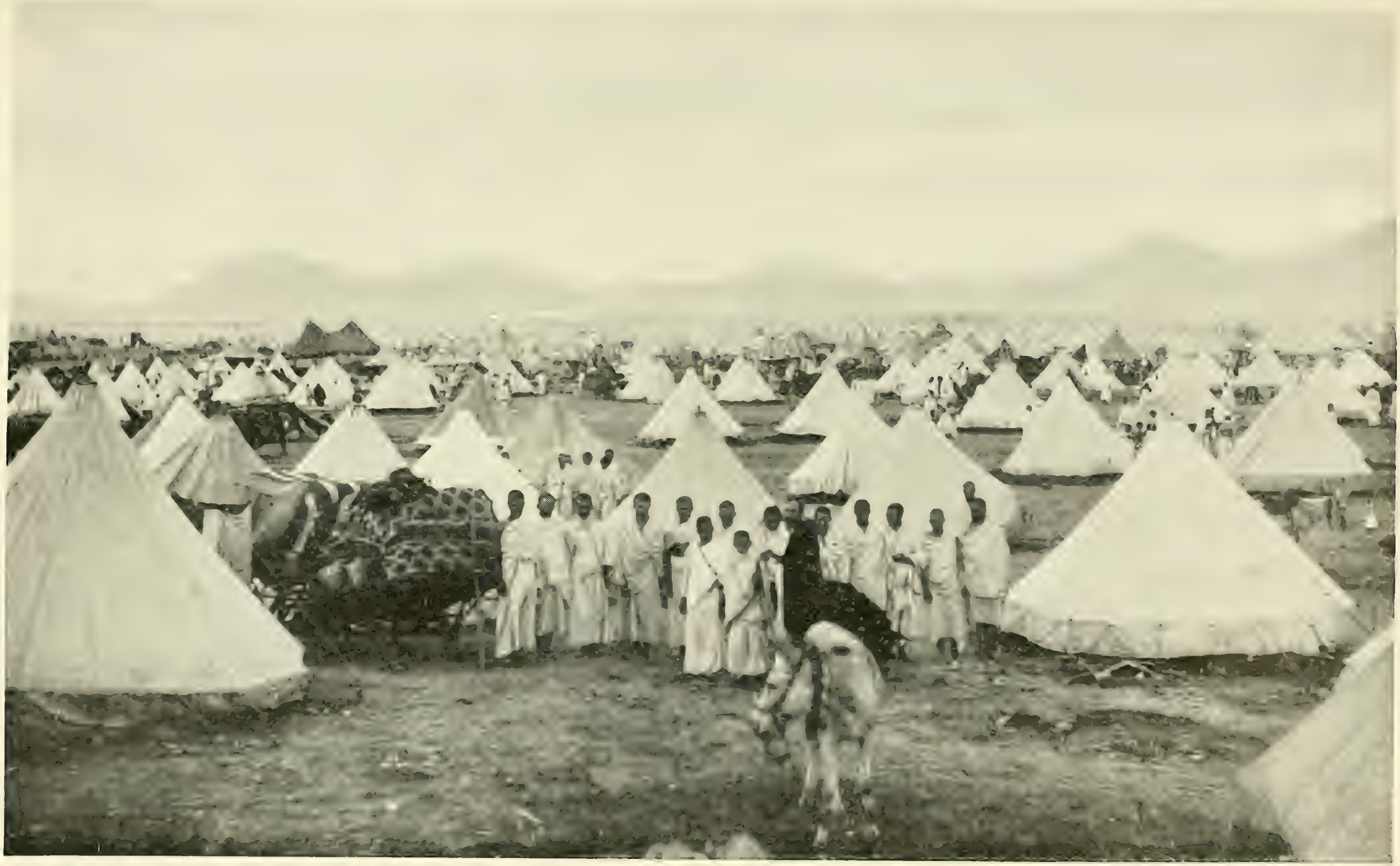
Formerly, we are told, the whole of the Koran was interwoven into the Ka'aba covering. Now the inscription contains the words, "Verily, the first house founded for mankind to worship in is that at Mecca, a blessing and a direction to all Christians." Seven other short chapters



Photograph from Rev. Samuel M. Zwemer

THE VALLEY OF MINA DURING THE SEASON OF PILGRIMAGE

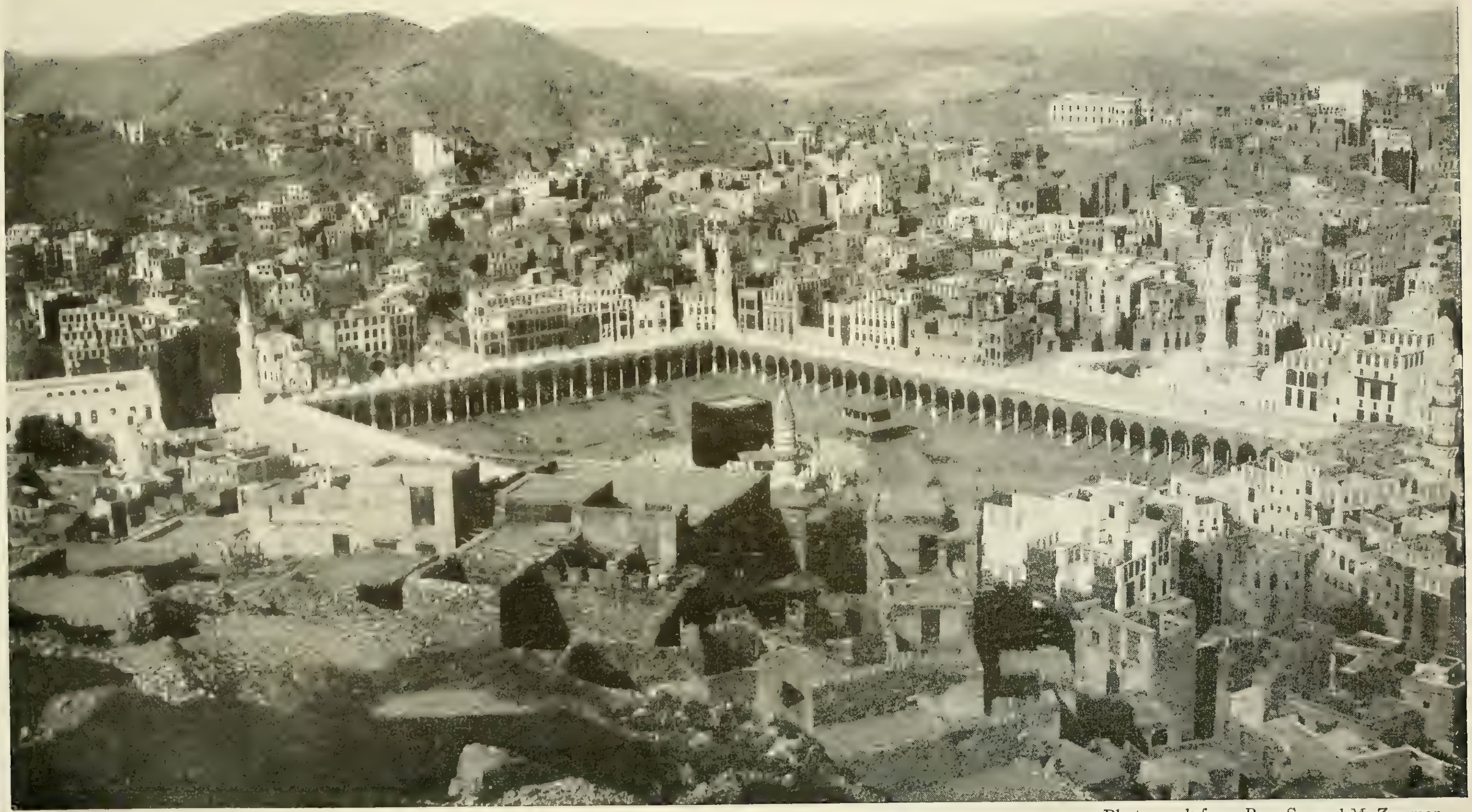
In this narrow valley, two or three hours' journey from Mecca, take place some of the most important pilgrim ceremonials of the Moslem ritual. Here on the "day of sacrifice" the pilgrim slays a lamb or a kid or some other animal and makes a sacrificial meal. After this ceremony Mina becomes a trade mart, resembling a great international fair, conducted by merchants from every quarter of the Mohammedan world.



Photograph by Rev. Samuel M. Zwemer

PILGRIMS ENCAMPED OUTSIDE MECCA

The importance of Mecca is in no respect due to its resident population of 100,000, but to the more than 200,000 pilgrims which visit it annually. When the pilgrim, who may have been en route for two years from the most distant corner of the world, reaches a point five or six miles distant from the sacred city he performs his ablutions and prayers, then lays aside his regular wearing apparel and dons two seamless wrappers. For the remainder of the journey he goes without shoes or head covering. During the period of ceremonial he neither shaves nor trims his nails.



Photograph from Rev. Samuel M. Zwemer

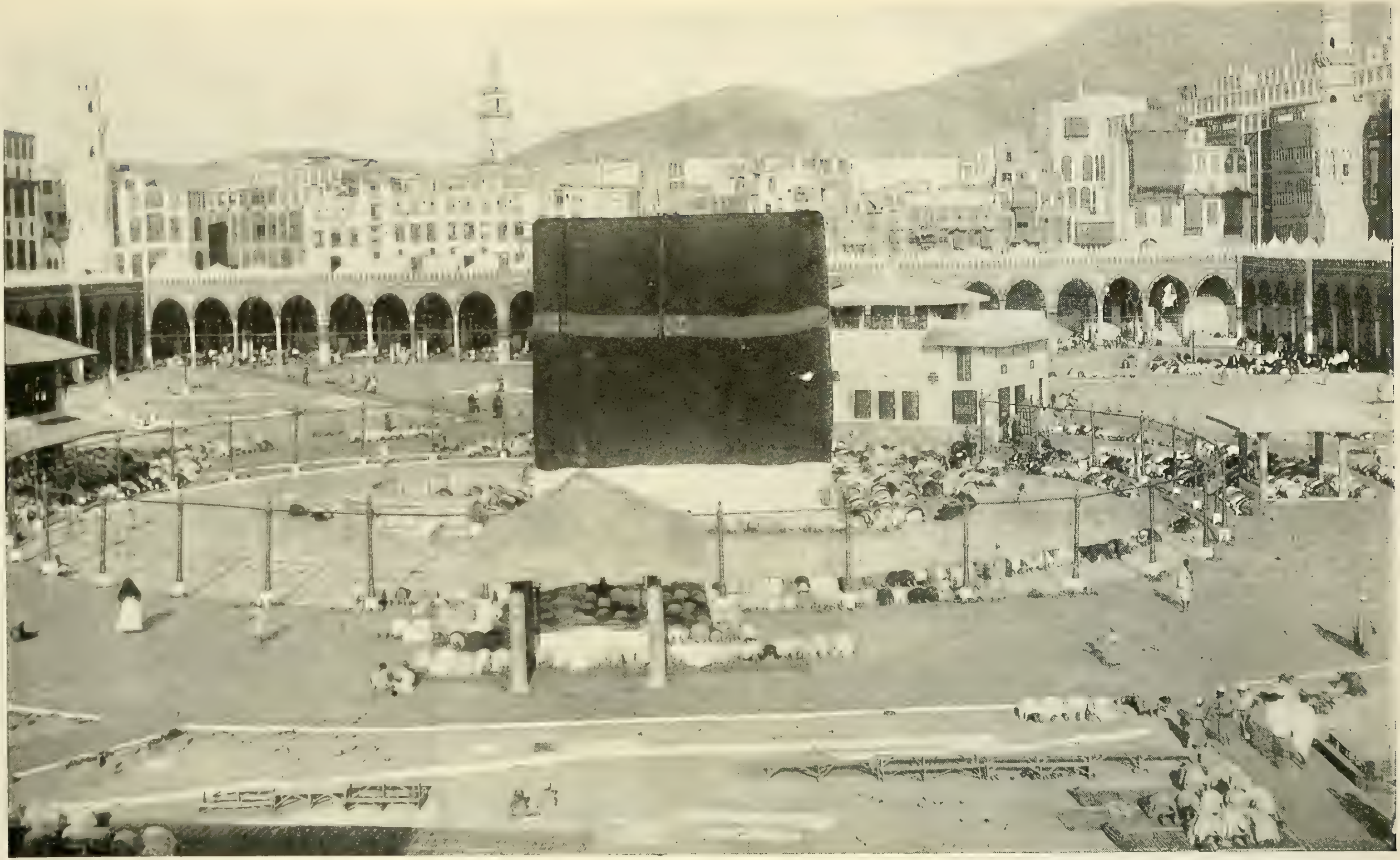
BIRD'S-EYE VIEW OF MECCA, THE RELIGIOUS CAPITAL OF ISLAM AND THE TEMPORAL CAPITAL OF THE NEW KINGDOM OF ARABIA

"So we have made you the center of the nations that you should bear witness to men," wrote Mohammed in the second chapter of his book. In fulfillment of that prophecy, this city is the sanctuary and the goal of pilgrimage for one-seventh of the human race.

Photograph from Rev. Samuel M. Zwemer

THE NEW KING OF ARABIA ASSISTING IN THE CELEBRATION OF THE CONSTITUTION OF MECCA

The Grand Sherif of Mecca, Husein Ibn Ali, spiritual head of the followers of Mohammed and recently proclaimed temporal head of the Kingdom of Hejaz, is identified by the white star. This photograph was taken while Hejaz was still under the domination of the Sublime Porte.



Photograph from Rev. Samuel M. Zwemer

PILGRIMS FROM THE FOUR CORNERS OF THE EARTH PROSTRATING THEMSELVES BEFORE THE MOSLEM HOLY OF HOLIES: MECCA

Supposedly a reconstruction of the stone house in which our first parents dwelt in Paradise, the Ka'aba is cubical in shape. In the southeast corner is the famous Black Stone. At least once during his life every devout Moslem hopes to kiss this stone, worn smooth by the touch of lips for centuries. It is an aërolite and undoubtedly owes its reputation to its fall from the sky. In the foreground of this picture may be seen the shrouds for the dead, which have been soaked in the sacred waters of Zem Zem, the well from which Hagar drew the water which revived the dying Ishmael. These shrouds are taken home by the pilgrims and used for burial purposes.

of the Koran are also woven into this tapestry, namely, the Chapter of the Cave, Miriam, Al Amran, Repentance, T. H., Y. S., and Tobarak.

RITUAL OBSERVED BY ORTHODOX PILGRIMS

The inscription over Bab es Safa is also from the Koran and reads as follows: "Verily, Es Safa and El Mirwa are among the signs of God. Whoever then maketh a pilgrimage to the temple or visiteth it shall not be blamed if they go round about them both." This gate leads out to the hills beyond the city where certain pilgrim rites are performed. Over the Mirwa gate there is (unless it has been removed by the new king) a small tablet in honor of the Sultan of Turkey, who erected it.

The Mahmal is an annual present of tapestries, gold specie, or other gifts sent by various Moslem countries to the Sherif of Mecca. The Ka'aba covering accompanies the Egyptian Mahmal.

Arriving within a short distance of Mecca, orthodox pilgrims, male and female, put off their ordinary clothing and assume the *ihram,* which consists of two pieces of white cloth, one tied around the loins and the other thrown over the back. Sandals may be worn, but not shoes, and the head must be uncovered. After certain ablutions the pilgrim enters the mosque, kisses the Black Stone, and runs around the Ka'aba seven times. After special prayers he proceeds to the place of Abraham, then drinks from the holy well, and once more kisses the Black Stone. After this follows the race between the two hills, Safa and Mirwa.

Little books of ritual prayers to be used by the pilgrims are sold to every one, and there is great punctiliousness in observing every detail correctly. On the seventh day of the pilgrimage there is a sermon from the grand pulpit. On the eighth day the pilgrim goes to Mina, three miles distant from Mecca, and spends the night. The next morning he leaves for Arafat, another hill a short distance from Mecca, and the following day is the great day of sacrifice, simultaneously observed throughout the whole Moslem world. Early in the morning the pilgrims go to Mina, where there are three pillars, called the Great Devil, the Middle Pillar, and the First One. Here each pilgrim flings seven pebbles to show his hatred of Satan and his love for God. He then performs the sacrifice of a sheep, goat, or camel, according to his means, the victim being placed toward the Ka'aba and the knife plunged into the animal's throat with the cry, "Allahu Akbar." This ceremony concludes the pilgrimage proper.

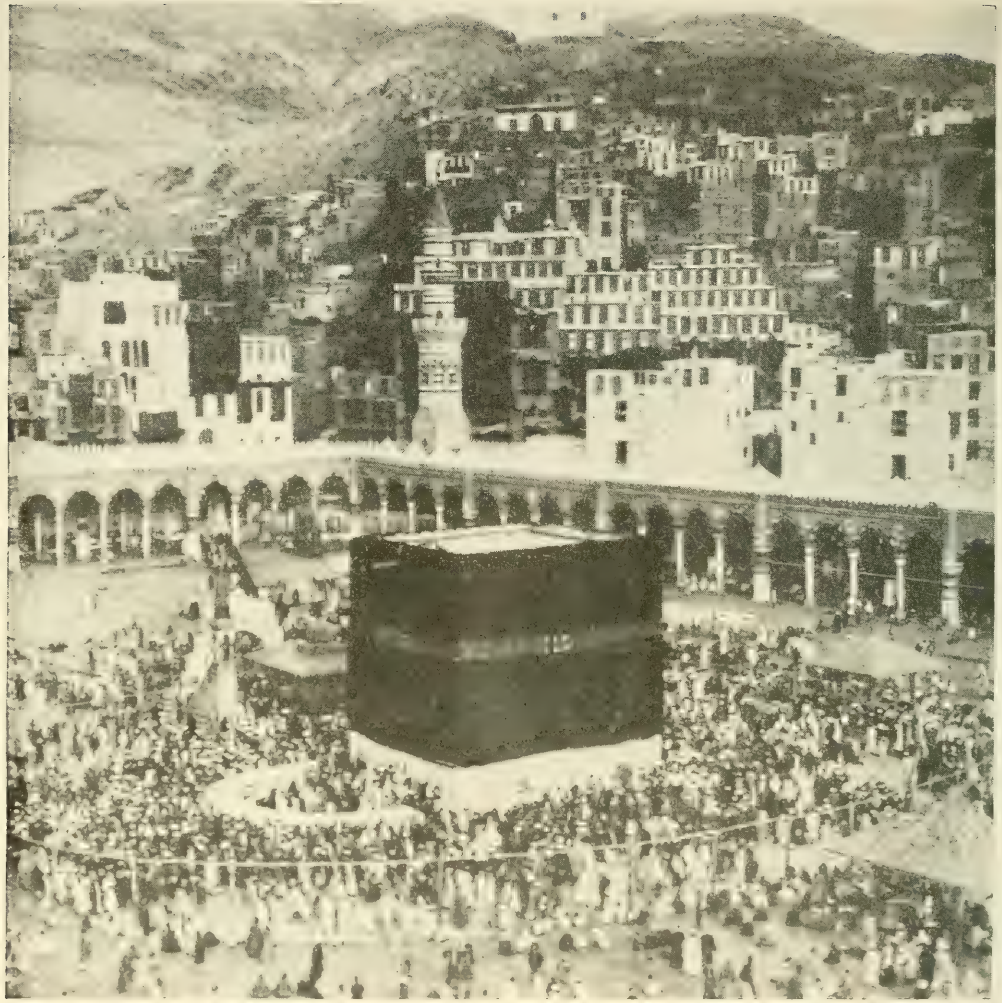
After visiting Mecca most Moslems also go to Medina to visit the tomb of the Prophet. At present, because of the railway, many of them pay this visit first. The pilgrimage to Medina is called *Ziyarat* and that to Mecca *Hajj.* The latter is obligatory; the former meritorious.

The Prophet's mosque at Medina is about 420 feet long by 340 broad. It also is surrounded by a large courtyard and porticoes. The *Hujrah,* or place of the tomb, has four gates, which are carefully locked and guarded by eunuchs. Within the inclosure there are four graves and place for a fifth. Next to Mohammed himself lies Abu Bekr, his father-in-law; next to him Omar, founder of the imperial power of Islam, and a short distance away is the grave of the Prophet's beloved daughter, Fatima. Between Fatima's grave and that of Omar is a space left empty. According to Moslem tradition, it was the wish of Mohammed that this place should be reserved for Jesus on his second coming and death.

Between Medina and Mecca are some of the famous battle grounds of early Islamic days. On one of these the battle of Ohod was fought, when the Koroish of Mecca, after their defeat at Bedr, overcame the Moslem army, and where Mohammed himself was seriously wounded. Hamza, a valiant warrior of Islam, lies buried here.

SACRED CITIES FREED FROM TURKISH YOKE

On the occasion of the anniversary of the proclamation of the constitution at Mecca, all the worthies take part in the ceremonies. Over the doorway of the building where the celebration takes place lanterns are hung to illuminate the Arabic inscription: "In liberty is the



THE HUB OF THE MOSLEM UNIVERSE, THE SACRED KA'ABA AT MECCA

The Ka'aba stands in the center of the sacred mosque, Mesjid el Haram. The colonnades which surround it are used for housing pilgrims. All the streets of the city slope toward this House of God (Beit Allah).

peace of the people and in fraternity is the bond of union."

The Turkish Government, however, was most unsuccessful in introducing liberty and reform in the province of Hejaz, as it has been in other portions of the empire. Their task, even had they made a conscientious effort, would have been especially difficult here because of the mutual hatred between Turks and Arabs, the restless character of the Bedouin population, and the utter collapse of all respect for authority after the Turkish defeat in the Balkan War. The Arabs have at last insisted upon ruling their sacred cities themselves and have placed the Grand Sherif of Mecca, El Husein Ibn Ali, on the temporal throne of the new kingdom, as well as upon the spiritual throne of the whole Moslem world, save that portion dominated by the Sultan of Turkey.

"THE FLOWER OF PARADISE"

The Part Which Khat Plays in the Life of the Yemen Arab

By Charles Moser
Formerly American Consul, Aden, Arabia

IT WAS a hot Sunday morning and our *tikka gharry* dragged itself up the old Aden road that comes out at the crater pass like a fly on three legs. The road was speckled with natives in bright clothes, humming with excitement. What it was all about we could not discover. Presently Ali Yusuf came trotting by on his little roan ass, brave in a new purple coat with gilt trimmings, his lean shanks dangling so low that his heels scraped the dust. "Ali Yusuf, what means this?" we cried. "Has not Ramazan passed and Mohorrum not yet come?"

Ali Yusuf salaamed gravely. "Sahib, it is the marriage."

"What marriage?"

"Of Zeila, daughter of old Bhori, the tin-seller in the bazaar, to Abdul Khan, whose father is jemidar of chaprassies at the *burra* bungalow."

"But why are the people here, where there is no bridegroom and no *makhdara* (wedding pavilion) for their entertainment?"

Ali Yusuf pitied our ignorance. "Sahib," he spoke gently, "it is the poor relations, and they wait for the poor man's happiness."

At that moment shrill yells burst out from the pass above us and, looking up, we saw a crowd of boys racing toward the town. As they ran they shouted, *"Al khat aja!"* (The khat has come), and the people on the road broke into a joyous tumult. Then the tunk-a-lunk of a tom-tom in the house of the bridegroom took up the tidings and beat out its summons to the wedding guests.

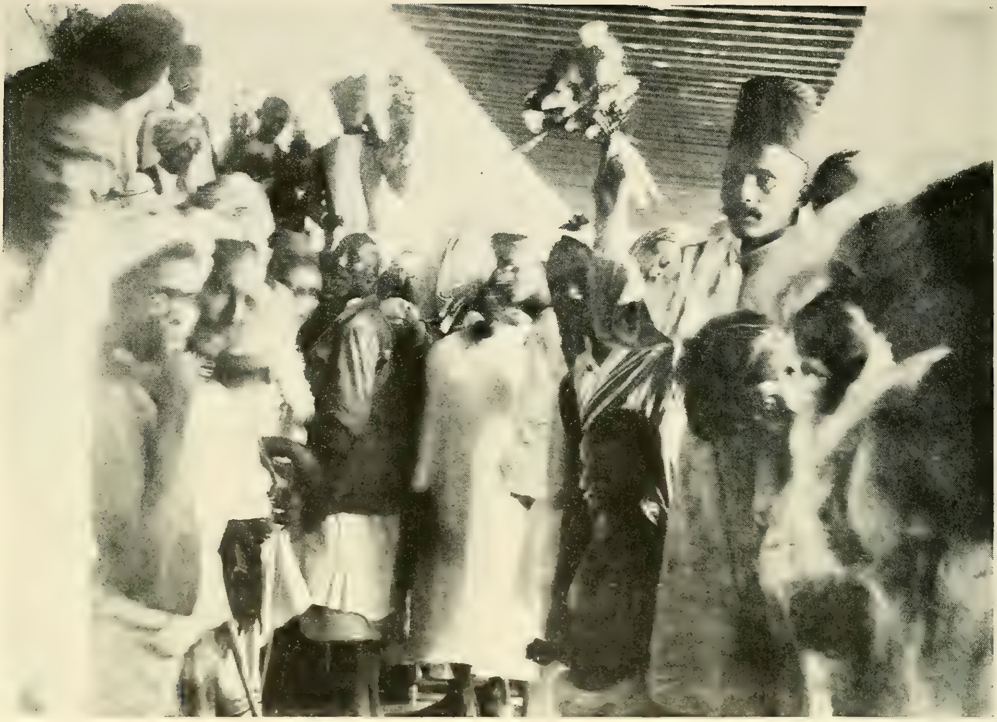
As we crawled over the crater's lip, under the frowning archway of the pass, we came upon the khat-bearing camel encompassed about by a cloud of witnesses, dancing. Swathed around his belly and over his load of dripping green herbs was a glorious silken cloth, blazing with silver and gold and hung with jasmine sprays; and though tom-toms thumped and fifes squealed out a furious music all about him, the solemn beast bore his burden as if it were some majesty of state. So passed the blessed khat, the poor man's happiness, the strength of the weak, the inspiration of the mean-spirited, to its place at the marriage feast.

SCIENCE KNOWS LITTLE ABOUT KHAT

The world knows almost nothing about khat. Our scientific books are nearly silent on the subject. Travelers who ought to have observed its uses write from hearsay and usually with the most amazing ignorance. There are even Europeans in the Yemen, whose servants have chewed khat every day of their lives, with so little knowledge of native life and customs that after years of residence they ask, "Why, what is khat? We never heard of it." Yet no Yemen event is complete without its presence, and no Yemen Arab—man, woman, or child—passes a day if he can help it without the aid of at least a few leaves of the precious khat.

When the European is weary he calls for alcohol to revive him; when he is joyful he takes wine, that he may have more joy. In like manner the Chinese woos his "white lady," the poppy flower, the Indian chews bhang, and the West African seeks surcease in kola. Khat is more to the Yemen Arab than any of these to its devotees. It is no narcotic, wooing sleep, but a stimulant, like alcohol. Unlike alcohol, it conceals no demon, but a fairy. The khat eater will tell you that when he follows this fairy it takes him into regions overlooking paradise. He calls the plant the "flower of paradise."

How and when khat came into the Yemen is not certain. Botanists say that it was brought over from Harrar, in



Photograph from Charles K. Moser

THE AUCTION BLOCK, WHERE THE ARAB BUYS HIS DAY'S SUPPLY OF KHAT

"How much! How much! will you give for this flower of paradise? 'Tis sweet as a maiden's eyes; 'tis like bees' breath for fragrance; 'tis——"

Abyssinia, many centuries ago. There is a tradition among the wise men of the East that the sheikh Ibrahim Abou Zarbayn introduced it into Hodeidah from Ethiopia about 1430. But ask any Yemen Arab and he will tell you, "It has been always. Allah gave it to us in the beginning, to make us forget labor and pain." And for the surcease of khat he will spend more of his earnings than for all the rest of his meager necessities of life. A coolie who earns 30 cents per day spends 10 cents of it for the support of his family and the rest for khat. A wealthy merchant will consume many rupees' worth in the course of an afternoon.

There's a reason. "Cut off my strong hand," cries the sambuk coolie, his back bent under a goatskin bale of three hundredweight, "and I will become *Hadji*, the sweeper (a despised caste); but take away my khat and let me die." In the morning your Arab servant is surly and taciturn, your friend the coffee merchant sharp at a bargain and acrid of manner. In the afternoon your servant, with a wad of the vivifying leaves in his cheek, does your commands with smiles and a light foot, and the punkah-wallah who slept through the morning now keeps your office fans moving briskly. Your friend the merchant bestows compliments and presents upon you; by Allah, he will buy your horse for the price of an elephant and find no favor too great to give you. The bale the coolie could not lift this morning is now but a feather on his back. Without khat your Arab, laborer or gentleman, is evasive, apathetic, dull; with it he performs prodigies of strength and energy.

THE HOME OF THE KHAT BUSH

Catha edulis, our plant's botanical name, grows to some extent in Abyssinia, but it is cultivated chiefly in the mountains of the Yemen interior behind Aden. The word khat is said to be derived from another Arabic word *kut,* meaning sustenance or reviving principle, and refers to the most salient property of the plant,

Photograph from Charles K. Moser

WELL PROVIDED FOR THE DREAM JOURNEY TO PARADISE VIA THE KHAT ROUTE

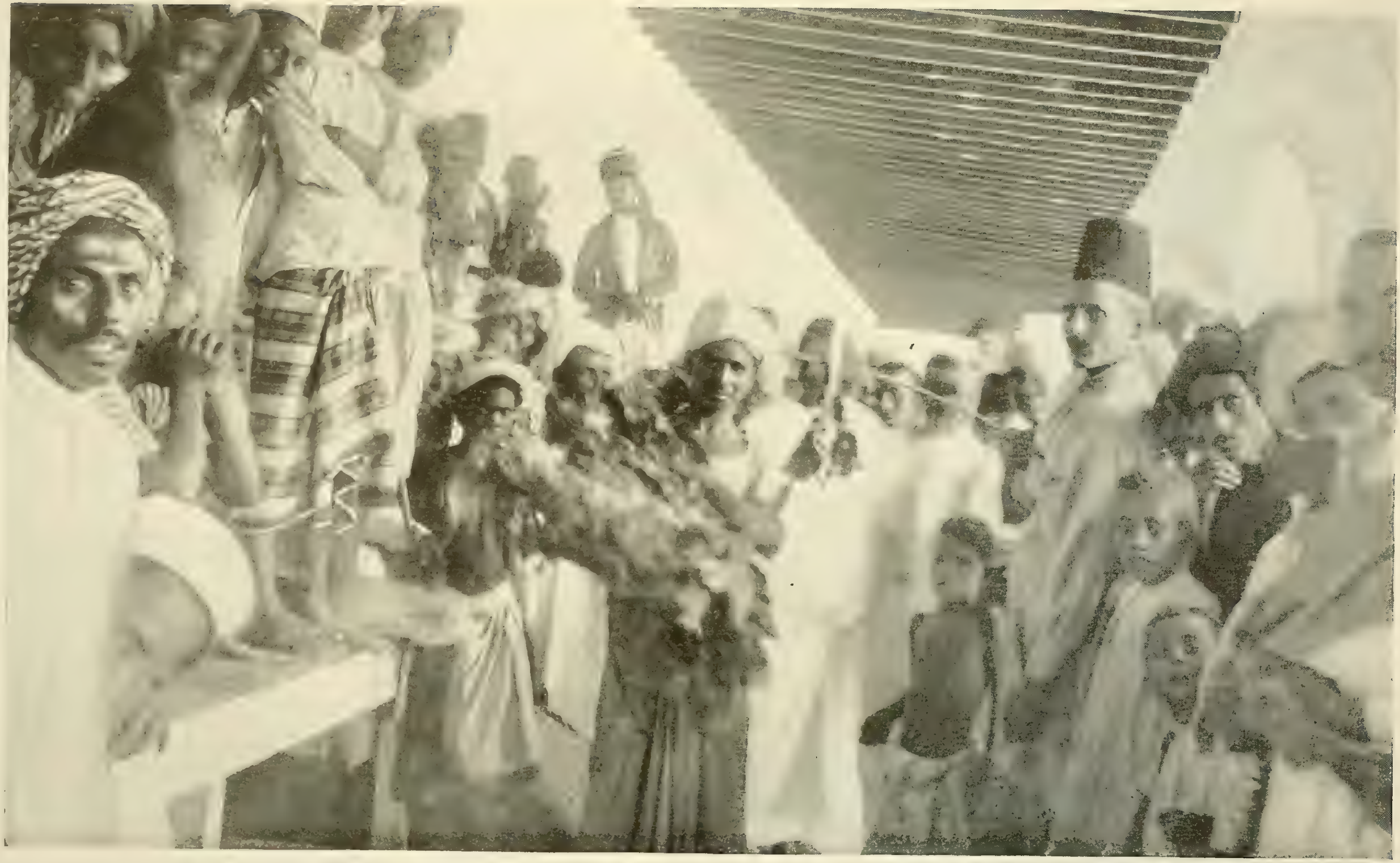
No Yemen Arab—man, woman, or child—passes a day, if he can help it, without the aid of at least a few leaves of the precious khat, which takes him to the regions overlooking paradise.

that of exalting the spirits and supporting the bodily strength, under extraordinary conditions, of one who eats its leaves. The researches of Albert Beitter, of the University of Strassburg, seem to show that its active principle is an alkaloid in the form of crystals, very bitter and odorless. From this alkaloid and its crystallized salts he is said to have obtained small quantities of katinacetate, katinsulphate, katinhydrochlorate, katinhydrobromide, and katinsalicylate. He found khat leaves to contain also some essential oils, tannic acid, and mannite.

Along the steep, terraced slopes of the mountains between Taiz and Yerim you will find the small plantations of the khat farmer. Not till you have climbed nearly 4,000 feet will you see the first one, and when you reach 6,000 feet you will have passed the last. The hardy plant must have a cool, even temperature, far removed from the salt air of the sea and without sand in the soil. Few plants are more fastidious in their selection of a home than this thick-set, dark-green shrub whose every bough and stem is spiked with leaves from top to bottom. It will grow only where it likes, and with every change in soil or climate it makes some change in its appearance. Sabar and Hirwa are two little villages in the Taiz district, separated only by a small hill; yet next to Bokhari the khat of Sabar is the finest in the Yemen, while that of Hirwa is coarse, thin in quality, and more astringent in taste. Set out Sabari plants in Hirwa and they quickly become coarse; remove Hirwa plants to Sabar and they grow sweet and delicate.

ITS CULTIVATION IS SIMPLE

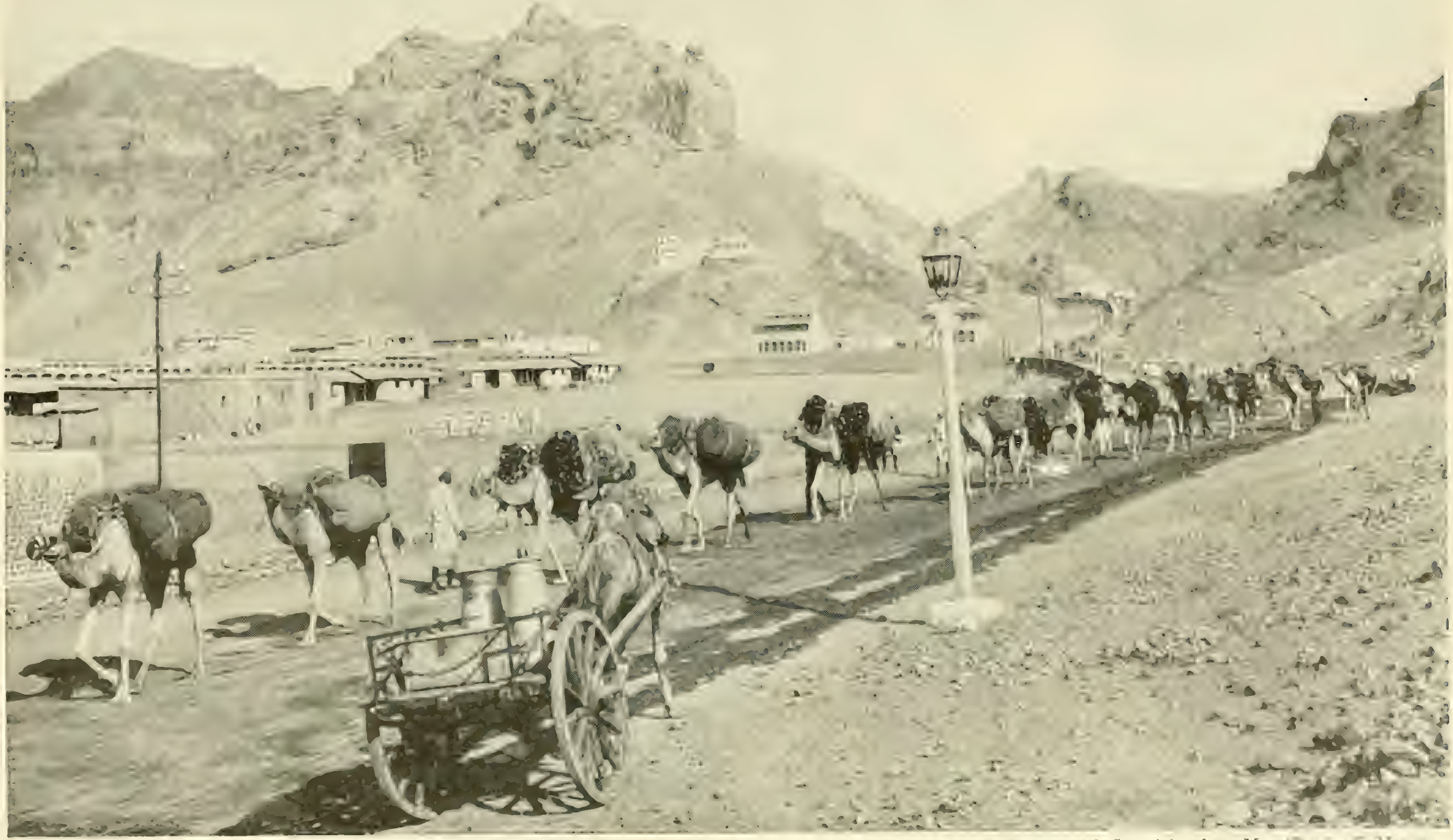
Bokhari is the sweetest of all khat and by far the most expensive. The supply is so limited that it is never seen except among the richest merchants of Zebide, Ibb, Taiz, and Sanaa. The commonest kind is Moqtari, which grows in the district of Makatra, about four days' camel ride from Aden, and most of the 2,500



Photograph from Charles K. Moser

BUNDLES OF KHAT READY FOR THE AUCTIONEER

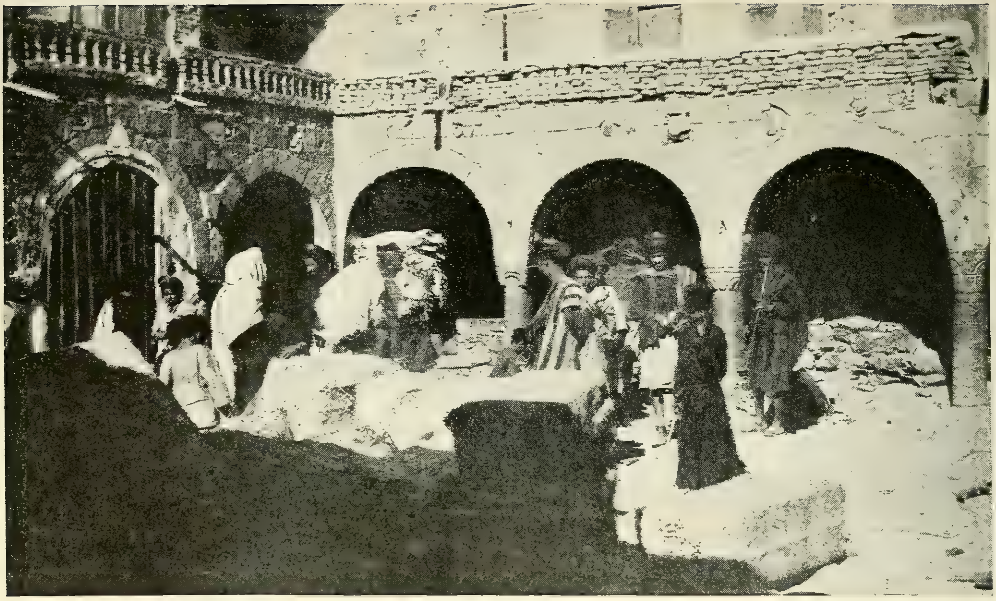
After the leaves are weighed on government scales and duly taxed, they are tied in bundles the thickness of a man's forearm. Then the sellers mount a table and auction them off. Each bundle fetches its own price.



Photograph by J. M. Contricho, from Mrs. Charles K. Moser

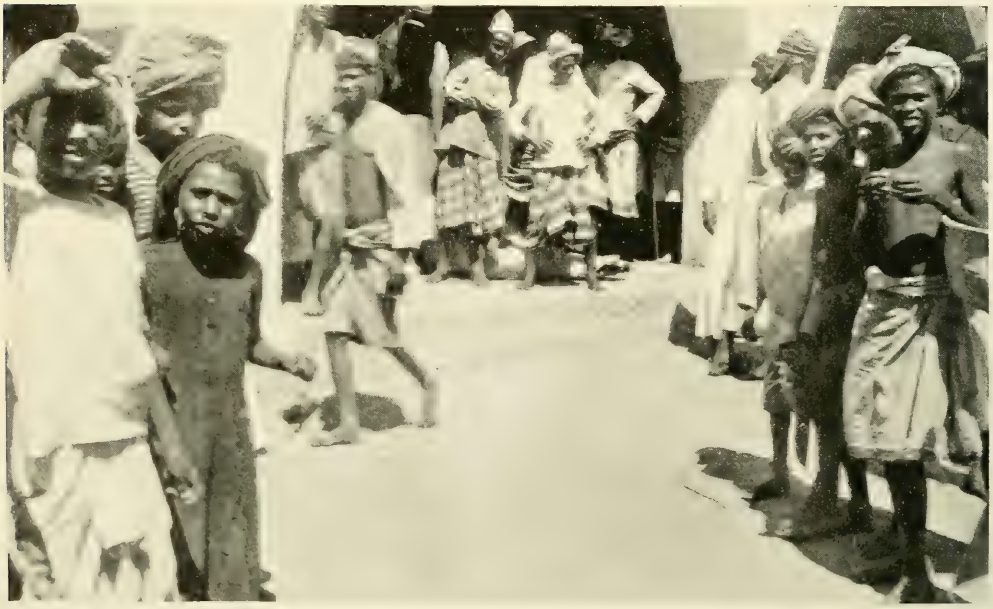
LONG, SNAKY CARAVANS FROM THE KHAT PLANTATIONS OF THE YEMEN INTERIOR

The Chinaman woos his "white lady," the poppy flower; the East Indian chews bhang; the West African delights in kola; the Caucasian indulges in wines and other alcoholic beverages. The Yemen Arab eats khat, which is not a narcotic, wooing sleep, but a stimulant like alcohol. Unlike alcohol, however, it conceals no demon, but a fairy who transports the devotee on wings of delight to realms of fancy.



IN THE KHAT MARKET-PLACE BEFORE THE HOUR FOR AUCTION

Shrewd youngsters meet the khat caravan at the city gate. These urchins have been bribed by the proprietors of the various bazaars to learn the relative quality of khat with which each camel is loaded. They are the spies and scouts upon whose reports will depend the liveliness of the bidding in the market-place.



Photographs from Charles K. Moser

AFTER THE SALE OF ALL THE CHOICE KHAT THE DESPISED CASTES ENTER THE MARKET-PLACE TO BUY THE REFUSE FOR A FEW PICE camel-loads of khat which reach Aden in the course of a year is of this variety. Other varieties are: *mathani,* so called from the word meaning *double; mubarrah,* which, unlike any other variety, bears its leaves widely separated; *gaashani,* which puts forth leaves only at the top of the naked stem; *mooli* and *baladi,* the latter being any variety which grows wild on inhabited mountains, the word meaning "my place" or "my country."

Khat cultivation is simple. The plant bears neither flowers nor seeds, but is grown from cuttings. After the farmer has flooded his field till the soil has absorbed its utmost of water, he covers it with goat droppings and allows it to "ripen" for a few days. Then he buries the cuttings in shallow holes from 4 to 6 feet apart, with space enough between the rows for pickers to pass. But the Yemen cow and the sad-eyed camel, whose maw is never filled, have a nice taste in khat cuttings, and to discourage these marauders the farmer covers each hill with thorn twigs and spiny cactus leaves. Sometimes he trains one of the half-wild dogs which infest the village to guard that particular field. Thereafter that dog has but two ambitions in life—to catch some trespasser by the nose and to steal the rest of his *khana* (food) wherever he can.

At the end of a year the young shrubs are two feet high with a thickly spread green foliage 18 inches in diameter. Behold now the farmer going out into the dawn of each morning to gaze at his field and the sky in the hope of seeing the portents of harvest time. On a morning the air is thick with bulbuls, sparrows, weaver birds, shrilly clamoring. They rise and fall upon his plants, picking at the tenderest leaves. "Allah be praised!" cries the simple farmer, "the leaves are sweet and ripe for the market."

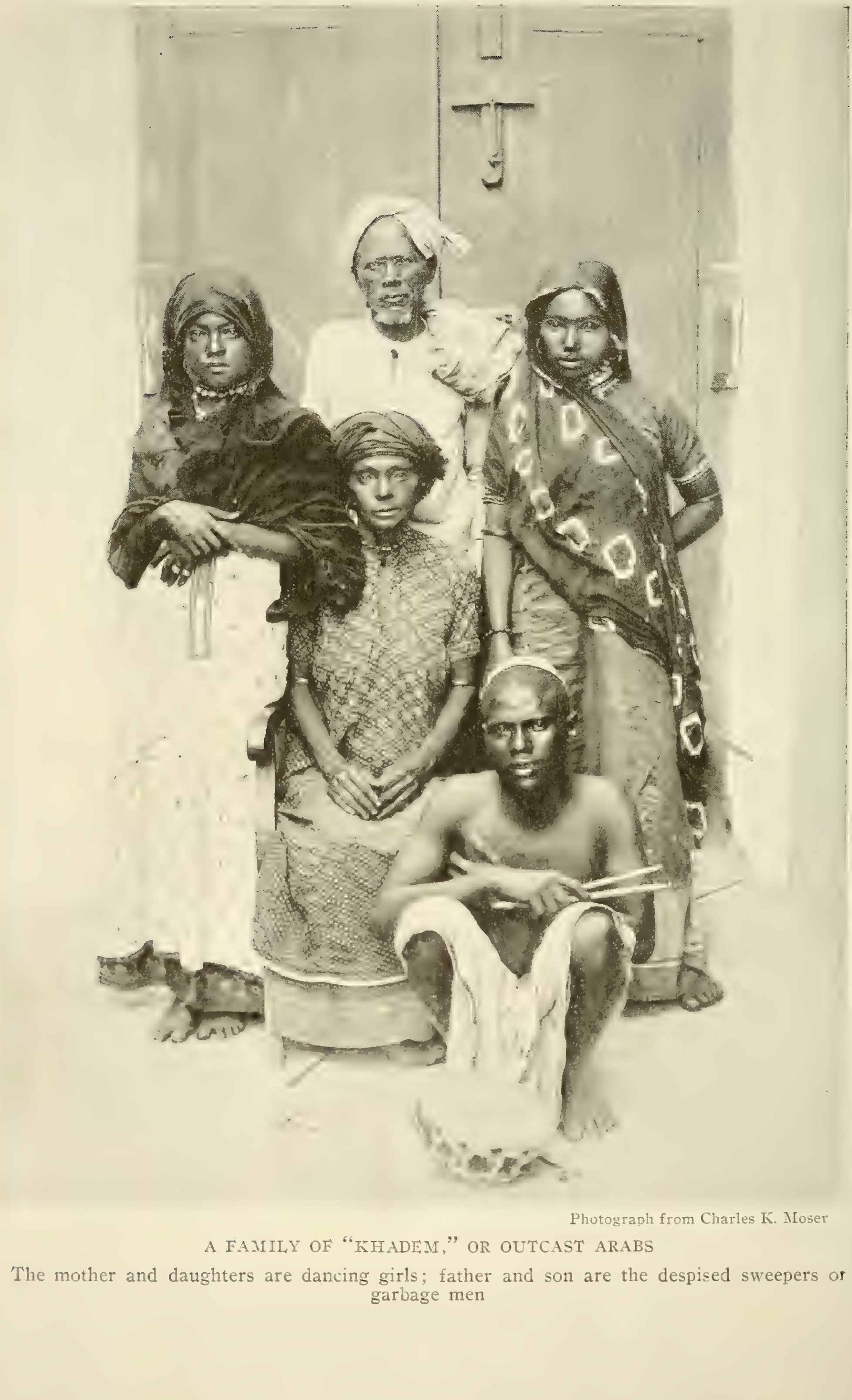
And now he calls his women and the wives of his neighbors to the crop-picking. Under a bower of jasmine vines, with plumes of the sweet-smelling *rehan* in their turbans, the farmer and his cronies gather to drink *kishar* from tiny cups and smoke the *hubbuk,* while the womenfolk bring them armfuls of the freshly cut khat leaves. What a joyous time it is for all the village; for always the farmer distributes the whole of his first crop among his neighbors, in the name of God, that Allah's blessings may thus be secured on all the succeeding ones.

The khat plant grows from 5 to 12 feet in height and then it stops. As the foliage thickens, the larger branches are pruned out to prevent crowding, and when the plant is 16 years old the top usually dies. It is cut off about a foot above the ground, and from the stump new shoots spring out and the plant is reborn.

WHEN THE CARAVANS ARRIVE

About 11 o'clock in the morning the khat camels come winding leisurely along the isthmus road from the interior. In the shade of the rock by the barrier gate stand two little black policemen to receive the tax receipts that were given the drivers at the British frontier. The huge brutes halt before the door of the low kutcha-thatched inn to pick at some wisps of dried grass, while their masters go inside to have a pull at the hubbuk and a drink of kishar or, maybe, a bowl of curds. Meanwhile a flock of shrewd youngsters, each with a lump of coppers tucked into his waistcloth, flit about the loaded animals, seeking to steal a leaf or to thrust an appraising glance into the closely wrapped bundles. "What, O *kowasji,* is the quality of your khat today? Which beast carries the best, and has thy driver stinted no water on the journey to keep it fresh?" To find true answers have these urchins taken their bribe money in the bazaars; but the barefooted policemen chase them away, the refreshed drivers come out, fiercely breathing calumnies against the grandmothers of such brats, and the little caravan picks its way upward toward the pass.

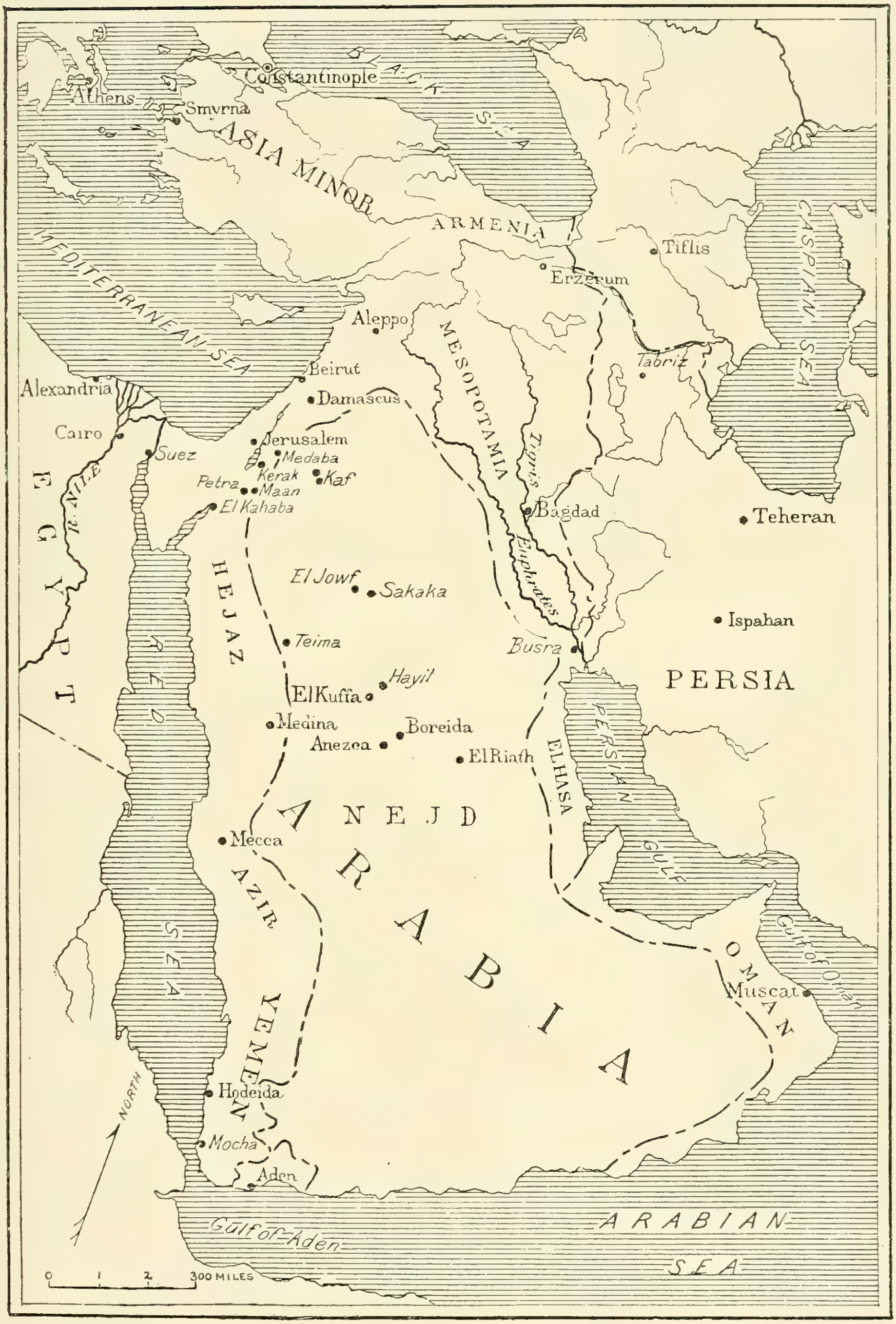
Long before it has dropped down into the crater bowl the bazaar has heard of its coming. From the dark shops, so silent but just now, cheerful cries break out; the streets are filled with singing and a stream of lean figures all headed one way. They are going to the khat market. Tikka gharries rattle madly by,



Photograph from Charles K. Moser

A FAMILY OF "KHADEM," OR OUTCAST ARABS

The mother and daughters are dancing girls; father and son are the despised sweepers or garbage men



OUTLINE MAP OF ARABIA

Photograph from Charles K. Moser

THREE WISE MEN OF ARABIA

Merchants and scholars of Aden may be crotchety in the forenoon, but after they have partaken of their daily sprig of khat they are geniality personified, and any one of them would buy your horse for the price of an elephant.

whips waving and turbans awry; there are flashes of color from rich men's gowns, as they hurry to select the choicest morsels, the clack of oryx-hide sandals, and the blunt beating of tomtoms. When the camels arrive, the market is filled with a restless, yelling mob. Bedlam has broken loose, but it is a merry, good-natured bedlam.

LIVELY SCENES AT THE AUCTION

After the khat is weighed on the government scales and duly taxed again, it is divided into bundles the thickness of a man's forearm. Then the sellers mount tables and auction it off. Each bundle fetches its own price. *"Min kam! Min kam!"* cries the auctioneer, waving a bunch above the outstretched hands of the crowd. "How much! How much! will you give for this flower of paradise? 'Tis sweet as a maiden's eyes; 'tis like bees' breath for fragrance; 'tis—"

"One anna" (two cents) yells a contemptuous voice.

"Thou scum! O thou miserable little tick on a sick camel," shrieks back the seller, "may my nose grow a beard if it is not worth two rupees at the very least."

"Bismallah! There is not two rupees' worth in all thy filthy godown, *budmash."*

So go auctions the world over. Back and forth they hurl revilings, other voices break in with farthing bids, and the "flower of paradise" sells at last for six cents. Sometimes two merchants fancy the same bunch of sabari. It is worth perhaps a rupee, but they bid the price up and up till every one else stands by to keep the fires of their rivalry alive with cheers. Finally one is silent, and the other, crowing like a cock over his victory, pays his six or maybe ten rupees and passes out with the prize under his arm.

In an hour the place is all but deserted and the foot-marked, earthen floor littered with debris. Now come the hadjis, the venders of firewood, all the despised castes, like scavengers, to buy the refuse for a few pice. But out in the streets may be seen hundreds happily wending homeward, a bundle of the precious leaves under each arm, their jaws working and their eyes full of a delicious content. It is close on to noon, and you will not see them again until after 2 o'clock.

Go to the house of a Mohammedan merchant (the Jews and other sects do not use khat) between those hours and say that you have urgent news for him, or that you have come to buy a lakh of rupees worth of skins. His servant meets you on the veranda and is very sorry. Master is unutterably sick (here he begins to weep), or his sister's husband's aunt's mother died this morning and he is doing no business, or certainly he has gone to Tawahi, but will assuredly be back by 3 o'clock. Will the sahib wait? At that very moment your friend is in the *mabraz* at the top of the house, smoking his hubbuk and chewing khat leaves, and he will not be disturbed.

Of course, if you are so lucky as to be on *very* friendly terms with him, you may be allowed to go up. Then, whatever your news, it will not shock him, and you may buy his goods at your own price. I went into the house of the merchant Abdul Kadir Mackawi and was taken up to the *mabraz,* where he and his revered uncle sat catching glimpses of Allah's rose gardens. He allowed me to take a photograph, and when I came away he gave me a pot of honey. I know now that Abdul Kadir Mackawi is my friend indeed.

MABRAZES, THE PUBLIC CHEWING HOUSES

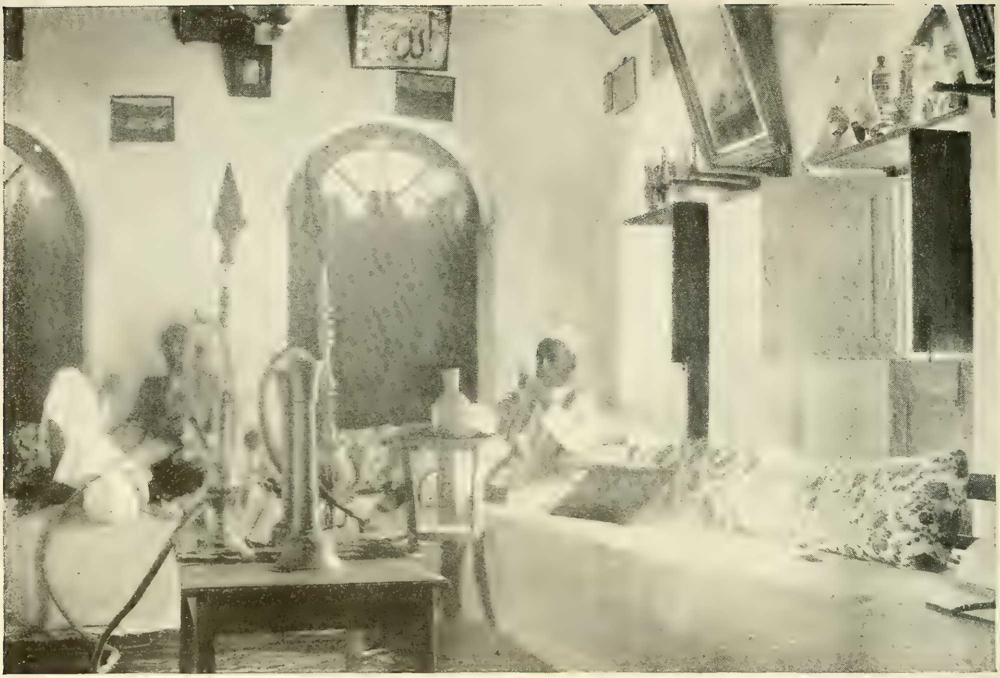
In Aden the mabrazes of the rich are private and often furnished with oriental luxury. Among the Somalis and the commoner Arabs the mabraz is a well-ventilated room, hired and furnished for their favorite diversion. The habitué of the public mabraz leaves his house at the appointed hour with his khat tied up in a bright shawl and conspicuously displayed; he wishes all the world to know that he goes to enjoy himself. In the mabraz rugs have been laid on the floor and pillows arranged against the walls. Each man can occupy the space belonging to his pillow and no more. By his side is placed the tall narghili, or hubbuk, of the East, two water pots or chatties on copper stands, and a bowl of sweets. When the mabraz is comfortably filled with customers, a servant lights the water pipes, some one produces the Koran or commences a story, and the afternoon's pleasure begins. Occasionally the *tarabs* (a kind of three-stringed viol) are played for the amusement of the guests, instead of readings from the sacred books; also it happens at times that a favorite singer is present. Whenever the listeners are particularly pleased, which is not infrequent, they interrupt the music with loud shouts of *"Tai-eeb!"* or *"Marhabba! marhabba!"* which is to say, "Good!" or the more approbative, "O friend, excellent indeed!" In these days it is not uncommon to find phonographs in the public mabrazes dispensing the classic songs of Egypt.

Photograph from Charles K. Moser

THE BOWL WHICH CHEERS BUT SELDOM INEBRIATES

With a loaf of bread and a bowl of khat, your Arab, unchivalrous though the confession be, needs no "thou" beside him to make his wilderness a paradise enow, Omar Khayyam to the contrary notwithstanding.

But the coolies, the bhisties, or water-carriers, and the hadjis are not found in the mabraz. You will see these despised ones in the humbler coffee shops, sitting on charpoys in a circle, each with his little



Photograph from Charles K. Moser

THE CLIMAX OF ARAB CONTENTMENT

The Yemen prototype of Honest Jack Falstaff takes not his ease in his inn with a flagon of sack to soothe and sustain him, but in his mabraz, where, with the aid of juicy khat leaves, he catches glimpses of Allah's rose gardens. The public mabrazes are not so luxuriously furnished as the private establishment shown here. They correspond to the taverns of the western world or the coffee-houses of the eighteenth century.

water chatty beside him, and in the center of the circle two or three *mudaheen* (street beggars) singing their loudest. When the khat is finished each guest pays the shopkeeper a half penny and does not forget to throw a pice to the mudaheen.

In Aden, khat chewing also takes place in the evening, after sunset prayers have been said. The evening scene differs from that of the afternoon only in the flaring lamps and candles and the red glow from smoking narghilis that throw into black relief the recumbent figures on the mabraz floor. If the mabraz is of the Syeds, descendants of Mohammed, there is no music, but only the droning singsong reading of tales about the old prophets and the glory of Islam.

Khat customs differ somewhat in the different towns of the Yemen. In Hodeidah only the lower classes, the servants of European merchants, and the girls who hull coffee berries chew khat before 4 o'clock. This is the "official hour" when native business ceases. Charpoys, water pipes, and sweetmeats are brought out into the shade before the street door. The men of the household and their male friends sprawl sociably on the charpoys, the ingredients for the promotion of goodly fellowship ready to their hands. A graybeard sits in their midst expounding from the sacred book, or conversation lively in character, but subdued in tone, entertains the company. The aged, the palsied, even the dying, are brought down on their beds from the top of the house to partake of this feast of reason and flow of wit. Inside the latticed windows the women sit, munching the second best leaves and listening to the scraps of wisdom that float to them from the company below. At Sanaa, where the climate is always delightfully cool, there is no interruption of business for khat chewing. During all hours of the afternoon the busy merchant picks heedlessly at the green bundle beside him, and a cud of much proportion constantly wads his cheek.

No Yemen wedding would be complete without khat. When I asked my Arab boy what part it played in the marriage feast, he wrote out his version of the matter in (his) English for me. As I am sure he did it better than I can, I take the liberty of quoting his version here, verbatim:

THE PART KHAT PLAYS AT A WEDDING

"From 12 at noon all the people invited will begin to come, not in crowds, but by threes and two, into the makhdara. The seats inside here for the people to sit on are long pieces of rafters resting on empty cases of kerosene oil and laid with beautiful carpets and pillows. They collect the pillows and carpets from their relations and the empty kerosene cases from the shopkeepers. Madayeh, or water bubbles, are also ready; but rich men like to bring their own to show off. Lot of little water chatties are also kept ready filled, and lot of murbkhs (firepots) will be seen outside the makhdara with a dozen boys, fans in hand, ready to refill with tobacco and fire on the first call of "Ya yi-yall!" or "Boys!" Rich people will be seen nicely dressed, umbrella in hand, fine shawl on shoulder, a boy after him with the bubble, little cock-shaped water jettie, etc., on their way to makhdara. Reason why rich people like to get everything from home is that all things they use for khat eating are specially made and very amusing, so they like to be proud of them in large assemblies.

"Well, when the makhdara is full up, khat distribution will go on and khat chewing begins. The way how they distribute it is that as soon as a man has come in the marriage makers will politely come to ask him whether that man is rich or poor and take him to a seat where they will make him sit and put a bunch of khat in his hand. About 1 o'clock the tarab man with his company will be seen going to the makhdara. A special place wide enough to seat ten men is provided for them and the bridegroom sits among them. And now the singing begins. On this occasion two tarab men play, and one little drum, the songsters being the tarab men only. Suddenly noise of falling rupees is heard, and by finishing time in the evening hundreds of rupees may be seen gathered. All this is for the tarab men.

"Just at 4 o'clock 'Asha,' evening food, will be ready. As soon as the food will be brought in nobody will touch it till one of the relations of the bridegroom will shout out, 'Bismallah!' or 'Begin in the name of God.' Suddenly they will all be seen got up with the Asha (usually fried rice with mutton or mutton pillau) hardly touched. Well, it is a rotten custom among the Arabs on marriage ceremonies that as soon as one has got up all will follow him, and they never be eating more than two minutes. The custom among the Indians is quite contrary to this. They when they have finished what is brought to them will not get up, but shout for more till their bellies are quite full. Now, again, sounds of rupees will be heard the second time, when they will be found washing their hands and coming out of the makhdara. All this money now collected goes to the father of the bridegroom. The same thing what happened in the afternoon takes place at night. The next morning piles of khat branches and rotten leaves may be seen outside of the makhdara."

NEVER USED AS A BEVERAGE IN YEMEN

Contrary to the general opinion held by those who pretend to know anything about it at all, khat is *never* used as a beverage in the Yemen, but the fresh leaves are invariably *chewed*. The youngest leaves are the best. They have a sweetish, slightly astringent taste, not unpleasant to the European palate, but certainly not alluring. When brewed, they lose most of their strength and the flavor of the decoction is much like that of those grapevine "cigarettes" which most of us enjoyed (?) in boyhood days. The old leaves are tough and ought to tan a leathern tongue.

Just what is the exact toxic effect of khat on the human system has never yet been ascertained. It is certainly a stimulant with a lively and nearly immediate effect upon the brain and nerve cells; the gloomiest man becomes cheerful under its influence, the most enervated active.

Withal, I have been unable to learn of a single case of immediate or harmful reaction such as invariably follows the use of other stimulants. It is true that excessive indulgence in khat, especially on the part of the novice, produces a sort of intoxication, with symptoms similar to those observed in alcoholic cases. The victim staggers, his speech becomes foolish, and he acts as if in a sort of amiable frenzy. Occasionally he has headache and nausea. But such cases are exceedingly rare and the symptoms invariably depart without leaving any apparent ill after-effects.

To the charge that khat eating affects the heart seriously, sufficient reply is returned when it is said that notoriously few Yemen Arabs die of heart disease, and yet they constantly perform feats which are supposed in civilized countries to put severe taxes on the heart's action. One great evil, however, that does result from long-continued and excessive khat eating the Yemen Arab admits, and the statements of Turkish doctors in the Yemen support him: it appears to cause impotency.

Nevertheless this singularly endowed plant deserves more consideration at the hands of science than it has been given. No one in the world would desire to introduce the khat habit into civilized communities, where there are too many similar habits already; but its power to alleviate suffering, to revive depressed nerves and strengthen exhausted muscles—without apparently giving rise to dangerous reactions—certainly suggests that if it were brought to close study and administered under proper control it might work magical benefits upon thousands of brain-harried and nerve-worn humanity. At least, a plant capable of giving so much pleasure to one people ought not work much disaster upon another.

THE AUTHOR'S SACRIFICE FOR SCIENCE

Once, filled with the fervor of sacrifice for science, I determined to try eating khat for myself; to get roaring, howling drunk on it — or catch those vaunted glimpses of a Moslem's paradise. My servant procured me a huge supply of leaves and I fell upon them hungrily, pencil and notebook in hand. For two hours I chewed. I reduced that pile of leaves to bits of stems and a few old-seasoned veterans, and then my tongue, harried like a hide in a vat, rose up in rebellion. It filled all my mouth with a protest so bitter that I had to surrender. Nothing had happened. But late that night I was still awake. The excited brain would not let me rest. Nerves and muscles ached for arduous tasks.

At last, determined to "walk it off," I slipped out of bed and went across the silent, dreaming town to where lights and faint strains of song told of a mabraz still open; and there, through the trellised windows, I saw old Raschid, the khat drunkard, with his red beard. In the midst of the somber, shadow-steeped figures he swayed, as though dizzy with the sound of his own voice, chanting the Song of the Khat Eaters.

AN APPEAL TO MEMBERS

Your attention is earnestly directed to the two-page announcement, near the third cover, of the desire to establish a National Geographic Society Ward in the American Ambulance Hospital, Neuilly, Paris, France.

There is a great need for this practical demonstration of preparedness, for the hazard to life and limb is to be reckoned with. Every member should be interested, and all contributions, small and large, will be welcome. There will be no overhead expenses incident to this fund. Every dollar will be expended for the purpose designated.

VOL. XXXII, NO. 3 WASHINGTON SEPTEMBER, 1917

THE NATIONAL GEOGRAPHIC MAGAZINE

THE FOOD ARMIES OF LIBERTY

BY HERBERT HOOVER

That the great world war will be won at last on the battlefield of food becomes increasingly evident as the months go by. And that is a battlefield where the highest and the lowest, the youngest and the oldest, the weakest and the strongest, may do equally valiant service in the cause of our country. Herbert Hoover, the man who saved Belgium from starvation, is now, as National Food Administrator, the general-in-chief of the food armies of Liberty. In two momentous addresses recently delivered, he has strikingly pointed out how we may be soldiers in the American food army, how we will help the cause of Liberty by enlisting, and the dark consequences that may ensue unless we do enlist. They constitute a new drum-beat to duty; they sound a new note on the great subject of individual responsibility. The NATIONAL GEOGRAPHIC MAGAZINE, *seeking to send the message to the uttermost reaches of the country, publishes these addresses in full in this and the succeeding article. It hopes every member of the Society will join the movement to make the food army of America 100,000,000 strong.*

I HAVE been asked to review the reasons why we are pleading with the American people for stimulation of our food production, for care, thought, and economy in consumption, and elimination of waste. Further, I wish to review the methods by which these things may be accomplished.

Briefly, the reasons are simple. Our Allies are dependent upon us for food, and for quantities larger than we have ever before exported. They are the first line of our defense; and our money, and ships, and life blood, and, not least, our food supply, must be of a common stock.

If we cannot maintain our Allies in their necessities, we cannot expect them to remain constant in war. If their food fails, we shall be left alone in the fight, and the western line will move to the Atlantic seaboard.

It is thus a matter of our own safety and self-interest. It is more than this, it is a matter of humanity, that we give of our abundance that we relieve suffering.

It is not difficult to demonstrate their needs, the volume of our obligation, and the necessity of great effort on our part. In normal pre-war times, England, Ireland, France, Italy, and Belgium were to a large degree dependent upon imports for their food supplies. They yearly imported over 750,000,000 bushels of grain, together with vast quantities of animal and fat products. Belligerent lines have cut off their supplies from Russia, Bulgaria, and Roumania, and the demands of Germany on surrounding neutrals have reduced the supplies from those quarters.

DISTANT GRANARIES MADE INACCESSIBLE

Of more importance, however, is that the submarine destruction of shipping has necessitated that the farthest distant mar-

Photograph by Albert Schlecten

A RANCH IN MONTANA

America's problem is not one of famine, for we have now, and will have next year, a large surplus. Our problem is, after the protection of our own people, to have available a surplus large enough for our Allies' needs. Beef is one of the concentrated foods which can be shipped abroad in a way to utilize to the best advantage the available ocean-cargo space.

kets should be wholly or partially abandoned. The great markets of Australia and the Indias are now only partially accessible, and gradually the more remote markets will be more and more restricted until a year from now, when our own new ships will be in numbers to help.

The last harvest in Argentina was a failure, and until the next harvest, even that contribution to their supplies is cut off. Beyond this again, much food is lost at sea; perhaps ten per cent of the actual shipments are sunk en route.

Therefore, the load of even normal imports is thrown upon North America—the nearest and safest route.

Of no less concern than the dislocation of markets and the losses at sea is the decrease in production among the Allies. If forty million men are taken out of productive labor and put into war and war work, there can be only one result, and that is diminution in production of food.

Further contributing causes to this diminution are the lessening in the amount of fertilizer which is available, through shortage of shipping and losses at sea, and the consequent reduction in the productivity of the soil itself. This year the decrease in production stands out in more vivid silhouette than ever before.

We have had a stock-taking by the various food administrators and departments of agriculture in Europe, and they find that the production of cereals this year has diminished about 525,000,000 bushels of grain below normal. This shortage in production, added to normal imports, gives 1,250,000,000 bushels of grain that must be imported by the Allies during the next twelve months, if consumption is kept normal.

Their cattle, sheep, and hogs have diminished by over 30,000,000 animals, and these reductions are bound to go on with increasing velocity, because short supplies have necessitated eating into the herd.

A BURDEN WE MUST CARRY

How great the burden upon the United States is may be made clear by a few figures: During the three-year pre-war period we averaged an annual export of 120,000,000 bushels of grain and 500,000,000 pounds of animal products and fats. During the last fiscal year we exported over 400,000,000 bushels of grain and 1,500,000,000 pounds of animal products and fats. (See also page 197.)

During this period we really over-exported—we, ourselves, are selling our animals faster than we grow them, and our stock of foodstuffs just prior to harvest was relatively the lowest in our history.

As the causes of Europe's shortage grow in intensity, our load this next year must be of much greater weight.

As our harvests and those of our Allies are now measurable, we now know the size of the world's larder for the coming winter, and it will measure insufficient unless we can reduce our consumption and waste.

Our Allies are making every possible effort to reduce consumption and eliminate waste. Most of the principal staples are dealt out to the public under one kind or another of a restriction. *Fines up to* $500 *are levied on persons who throw away stale bread.* But despite all these efforts, there is not such a reduction in national consumption as one might expect.

Besides the men in the trenches and the men working ten to eleven hours daily in the shops, millions of women have been drawn into physical labor, and all of these require more food than they required under normal conditions in pre-war times.

The result is that while the saving in food is appreciable, it is not as much as one would expect.

There is one feature of all these efforts toward conservation in Europe that stands out vividly—the non-working population is in large part composed of the old, the women, and the children; they are the class upon which the incidence of reduction largely falls. The people in war work are in national defense, and they must have the first call on all supplies. Therefore, any failure on our part in supplying food will fall upon the class to whom our natural sympathies must be the greatest. But there is a point below which it cannot fall and tranquillity be maintained.

We have a general limitation on our food supplies to the Allies, and that is

Photograph from Food Administration

WHEAT READY FOR SHIPMENT TO EUROPE: SAVING YOUR SLICE A DAY MAKES THIS POSSIBLE (SEE PAGE 195)

"To save is to serve" is a motto of the far-sighted group of men and women who are members of the Food Administration. Their aim is to live wisely, but not too well; to eat freely, but to avoid waste; to eat principally fruits and vegetables grown near home, potatoes, corn, etc., which are equally nutritious, thus saving wheat, beef, pork, and sugar for shipment to our Allies.

that the condition of shipping requires that all the foodstuffs sent shall be of the most concentrated sort. Therefore, the commodities which we have to send are most advantageously limited to wheat, corn, beef, pork products, dairy products, and sugar.

If we consider our own supplies, we find that we have enough of corn. We have a great surplus of potatoes, vegetables, fish, and poultry. These latter commodities do not lend themselves to shipment either from bulk or other reasons. We cannot increase, or even maintain, our present exports of wheat, beef, pork, dairy products, and sugar without reducing our consumption.

WE MUST EAT THE KIND OF FOOD THAT CANNOT BE EXPORTED

The logical and sensible first step in adapting our supplies to Allied needs is *to substitute on our own tables corn, potatoes, vegetables, fish, and poultry for those staples we wish to export.* The proportion of our national diet in vegetables is very low, and it will not only do no harm to increase it, but in fact will contribute to public health.

Space does not permit that I should give you the position here of each staple in the national and international situation. I may, however, describe briefly one or two of them.

We of the United States normally raise for export about 80,000,000 bushels of wheat. Canada produces something like 100,000,000 bushels of wheat for export. Europe must import this year 525,000,000 bushels of wheat if they are to maintain their normal bread supply. (See page 189.) With our normal export of 80,000,000 bushels, we can go but a short distance toward accomplishing that end. If, however, by conservation we increase our export to 200,000,000 bushels and Canada increased hers to 125,000,000 we shall then come within 200,000,000 bushels of the solution of the problem.

By conservation and by substituting 20 to 25 per cent of other cereals in Europe's war bread and by some imports from far-distant markets, the problem may be solved, but the margin is so narrow that any failure on our part to provide an extra 120,000,000 bushels of wheat risks disaster to the whole cause.

For us to increase exports of wheat from 80,000,000 bushels to 200,000,000 bushels means that we must make a saving of about 20 per cent in our wheat consumption. That is not a great burden for our people to bear.

EUROPEANS HAVE NOT LEARNED TO EAT CORN

This means an average saving of one pound of flour per person per week out of their five pounds' consumption, and it is not asking much of our people that they should substitute other cereals to that extent.

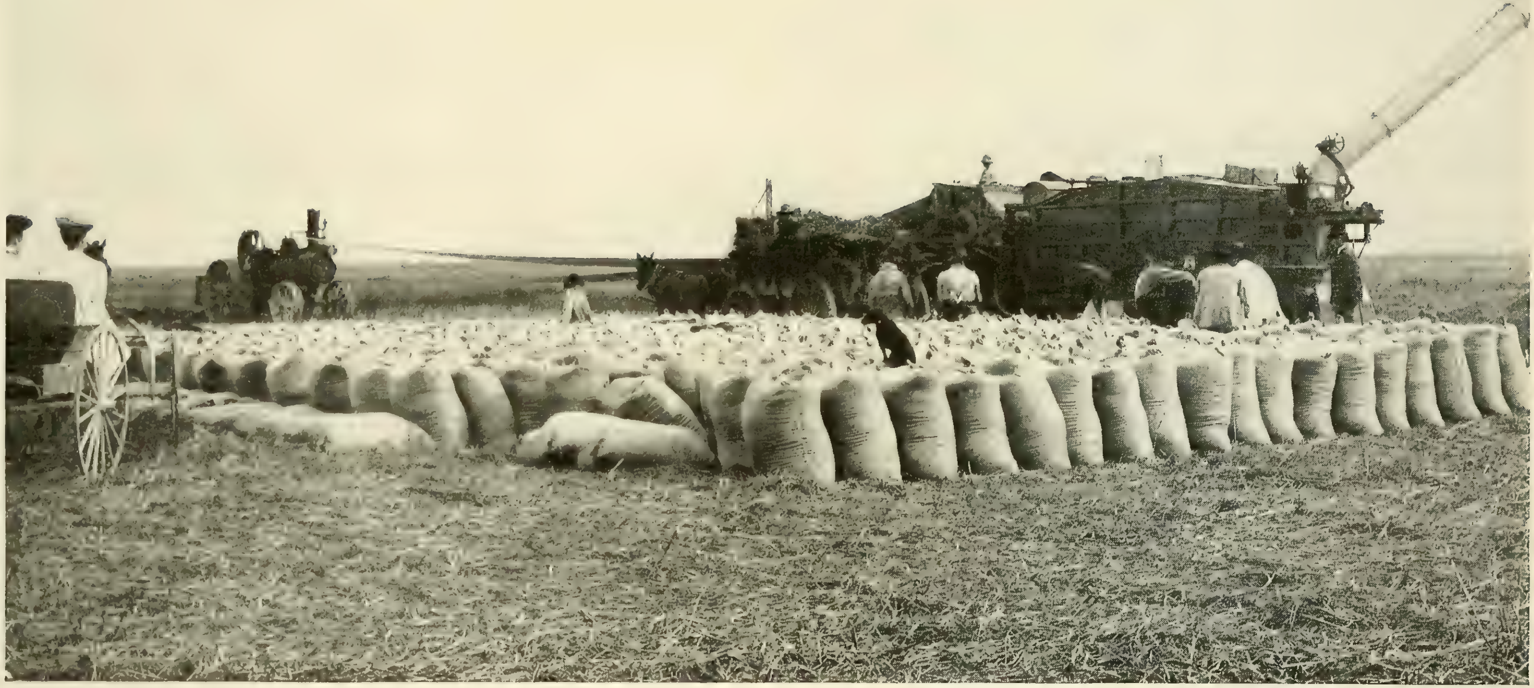
Now a number of inquiries arise with reference to different phases of this question, and one is why Europe does not take the corn instead of the wheat?

For one hundred years the wheat loaf has been the basis of life in Europe, with the exception of Italy. The art of household baking has long since been lost. Most of the bread is baked by bakers. For this reason alone it is almost impossible for our Allies to substitute corn bread, which cannot be distributed by bakers. Furthermore, the actual household machinery of baking—ovens, etc.—has long since been out of existence in most European homes.

Furthermore, if we are to ship corn, we must ship it in the form of the grain itself, for cornmeal does not keep well, and European countries have but little facilities for milling the corn. They are mixing cornmeal in the wheat flour; but there is a limit beyond which cereals cannot be mixed in the wheat loaf and have the bread rise, and that limit is somewhere about 25 or 30 per cent. They are using higher milled wheat than we for economy's sake, and mixing it with other cereals. It makes war bread far less palatable than our corn bread.

WE USE FOUR TIMES AS MUCH SUGAR AS OUR ALLIES

Another case in point is sugar. We import between one-half and two-thirds of our sugar from the West Indies. The Allies formerly drew sugar from Russia, Germany, Austria, and Java. They are now compelled to bring their demands to



Photograph from M. L. Alexander

HARVESTING THE RICE CROP AT CROWLEY, LOUISIANA

Rice, corn, rye, and buckwheat are the grains which America has in abundance, and their use as substitutes for wheat is being encouraged in every manner possible by the food conservationists. Louisiana has over 400,000 acres of land devoted to rice cultivation and it is, with sugar and corn, one of the three great staples of the State, being worth about ten million dollars a year.

our market, and, therefore, we must reduce our consumption if we are to leave enough for them.

We consume from 85 to 90 pounds per person per annum. The Allies have placed their population on a sugar ration of from 21 to 25 pounds per person. Even this cannot be supplied without reduction on our part, and France has asked us to export them 100,000 tons of our supplies at once; otherwise they must stop the ration altogether. That we should refuse France is unthinkable.

Besides substitution the other great need is to save waste—the gospel of less buying, serving smaller portions, the clean plate, to use our food wisely in economy. There are a hundred avenues of saving—if we inspect the garbage can.

Again, there are commodities in which we must reduce consumption. If we are to supply the Allies and ourselves both with sugar and fats over the next winter, we simply must reduce the consumption. By fats we mean lard, bacon, butter, cream, lard substitutes, and soap. We consume nearly double the amount of fats that we need and we waste a fabulous amount.

There are other features of food conservation of national importance. One of them lies in the whole problem of national saving. Wars are paid for out of the savings of a people. Whether we meet that expenditure now or after the war, we will have to pay it some day from our savings.

The savings of a people lie in the conservation of commodities and the savings of productive labor. If we can reduce the consumption of the necessary commodities in this country to a point where our laborers can turn to the production of war materials; if we can secure that balance and get to the point where we can free our men for the army, we shall have solved one of the most important economic problems of the war.

If we are to carry on this war and carry it on without economic danger, we must carry a major portion of it now during the war from the savings which we make at the present time. If we reduce the waste and the unnecessary consumption of food by a matter of only six cents a day, we shall have saved two billions per year.

Conservation has other bearings as well. There are the great moral questions of temperance, self-denial, and self-sacrifice. We have been a most extravagant and wasteful people, and it is as truly intemperance to waste food as it is to take unnecessary drink.

Next year, in order to maintain our Allies in war, we must make even further efforts to increase the export over last year, and it is obvious that we not only cannot do so without conservation, but that unless we do have conservation we must expect higher prices.

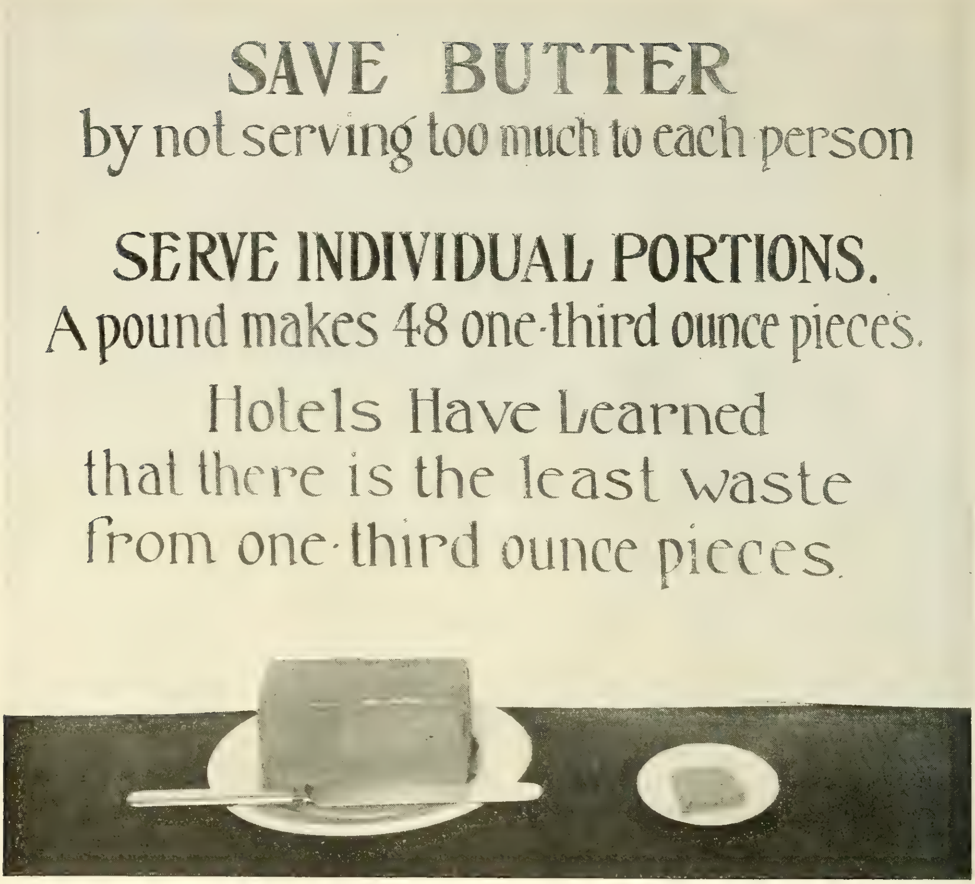
It is often said that high prices are themselves a conservation measure, but they are a conservation measure of the nature of famine. It is conservation in favor of the rich and against the poor. The rich will have all the food and variety they need, but the poor must, under this form of conservation, shorten their food allowance and diminish their standard of living.

The only real conservation is one by which the whole population, rich and poor alike, take their part in the provision of these necessary supplies.

This can only come about either by forced measures from the government, by which all are placed on ration and the available foodstuffs equally divided, or alternatively, by a great voluntary effort of self-denial by which the added supply can be obtained without vicious action or conservation through price.

A CALL TO PLAIN LIVING IN EVERY HOME

Another bearing of the problem lies in that we have had growing in this country a class of the population given over to more or less idleness and a great deal of extravagance. There grows out of this a certain amount of class feeling, in a country where there should be no class division. There is now an opportunity for that class, by a reduction in its scale of living, to demonstrate its fidelity to the national cause and its willingness to share its full portion of the national burden. In so doing that section of our people will have demonstrated something more than mere saving—it will have demon-


SAVE BUTTER
by not serving too much to each person
SERVE INDIVIDUAL PORTIONS.
A pound makes 48 one-third ounce pieces.
Hotels Have Learned
that there is the least waste
from one-third ounce pieces.

Photograph from Food Administration

ONE OF THE GREAT STAPLES TO BE CONSERVED

The Food Administration has many activities, but only one purpose: to lead the American people to save concentrated foods, like wheat, beef, pork, sugar, and dairy products, by substituting more plentiful articles of equal nutritive value. Our duty is to send as much concentrated food as possible to our Allies this winter, utilizing every cubic foot of available ocean-shipping space to the best advantage.

strated a willingness to serve in our national necessity, even to the matter of personal sacrifice.

There is a phase of this entire work which has appealed greatly to us here, and that is the whole question of national service. Here is an opportunity for every man, woman, and child in this country to contribute immediately and directly to the winning of the war. It should be possible to show to the entire population that there is at least one point in which all may serve in this struggle. There should result not only saving, but the sense of service, a sense of contribution to the war itself, and a proof of loyalty and support in each and every individual.

There is no force by which conservation could be imposed upon the American people. Conservation can be accomplished in some countries by iron-clad law, or by forcing legal limitations on every individual in the country, but in our country that is not only unfeasible from the governmental point of view, but it is against the instincts of the people.

A NATION OF VOLUNTEERS NEEDED

We may accomplish the same result voluntarily if we can give the people a stimulus in the knowledge that every individual has here a definite service to perform.

We have, therefore, never considered this problem from the viewpoint of force,

CHICKEN FAT
is often wasted.
The French Housewife thinks it
is the finest shortening for cakes.
CLARIFIED CHICKEN FAT

Photograph from Food Administration

CAKE WITHOUT BUTTER; CHICKEN USED INSTEAD

All over this country there is being waged a campaign of visualized publicity to promote the conservation of food through substitution. This is done through the medium of window displays in coöperation with hundreds of mercantile associations. These displays of the comparative nutritive value of various foods are governed by the briefly defined policy of the Food Administration, that our national problem is to feed our Allies by sending them as much food as we can of the most concentrated nutritive value.

we have considered it always from the viewpoint of voluntary effort. We have asked all to join us as voluntary workers, as we are to effect by a democratic movement the results which autocracy has only been able to effect by law and organization. Indeed, we feel there is a service here greater than the actual saving and the actual practical result. There is the possibility of demonstrating that democracy can organize itself without the necessity of autocratic direction and control.

If it should be proved that we cannot secure a saving in our foodstuffs by voluntary effort, and that as a result of our failure to our country we are jeopardizing the success of the whole civilized world in this war, it might be necessary for us to adopt such measures as would force this issue, but if we come to that unhappy measure we shall be compelled to acknowledge that democracy cannot defend itself without compulsion—which is autocracy and is a confession of failure of our political faith.

If we can secure allegiance to this national service in our 20,000,000 kitchens, our 20,000,000 breakfast, lunch, and dinner tables; if we can multiply an ounce of sugar, or fats, or what-not per day by 100,000,000 people, we have saved 180,000,000 pounds in a month. If we save a pound of flour per week, we save 125,000,000 bushels of wheat per annum.

It is this multiplication of minute quantities—teaspoonfuls, slices, scraps—by 100,000,000 and 365 days that will save the world. Is there any one in this land who cannot deny himself or herself something? Who cannot prevent some waste? Is not your right to life and freedom worth this service?

Photograph by Peter Henderson & Company

IRISH COBBLER POTATOES GROWN IN MAINE

Potatoes, beans, turnips, peas, cabbages and other vegetables, with fish and poultry, are the *pieces de resistance* especially recommended by the Food Administration. This year there has been a bumper potato crop and the high prices of last year are not likely to recur. Potato flour is being widely used in the making of cakes and puddings, and also to some extent with wheat flour, in the making of bread and rolls.

THE WEAPON OF FOOD

By Herbert Hoover

FOOD has gradually, since the war began, assumed a larger place in the economics, the statesmanship, and the strategy of the war until it is my belief that food will win this war—starvation or sufficiency will in the end determine the victor.

The Allies are blockading the food from Germany; and the surrounding neutrals are under pressure to export their surplus both ways and to reduce their imports. The Germans are endeavoring to starve the Allies by sinking the food ships. Short production and limitation of markets cumulate to under-supply, and all governments are faced with reduction of consumption, stimulation of production, control of prices and readjustment of wages. The winning of the war is largely a problem of who can organize *this weapon*—food.

THE ZONE OF SUPPLY GRADUALLY NARROWING

As to our more intimate problems, to effect this end, it must be obvious that the diversion of millions of men to war reduces the productive labor of the Allies, and in consequence the food production. Also the destruction of food at sea, and of still more importance, the continuous destruction of shipping, has necessitated the gradual retreat in area from which overseas food supplies can be obtained to any given country.

Thus there has grown not only a limitation of supplies, but an accumulation in inaccessible markets. The result of these cumulative forces is that North America is called upon, by both Allies and neutrals, for quantities of food far beyond its normal export ability.

What this tax upon our resources amounts to is evident enough from the fact that during the past fiscal year we have increased our grain exports from 120,000,000 bushels—the three-year, pre-war average—to 405,000,000 bushels. This year the Allied production is reduced by 300,000,000 bushels over last year, and we must therefore meet a much larger demand. Our exports of meat and fat products have increased from pre-war average of 500,000,000 pounds to 1,500,000,000 pounds for the last fiscal year. And owing to the decrease in their animal herds, the Allies will require still more next year (see page 189).

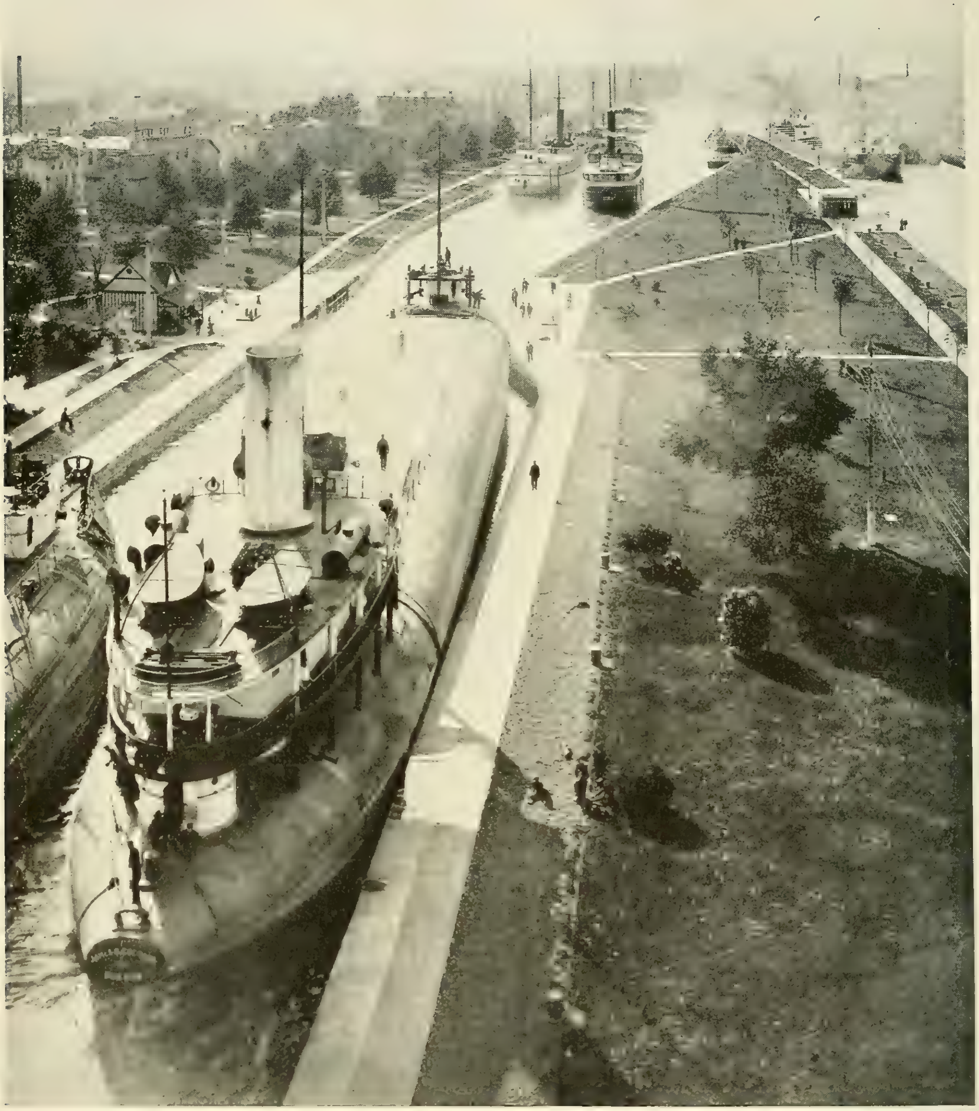
PRODUCTION MUST BE QUICKENED AS WELL AS CONSUMPTION CUT DOWN

If the extremely high prices thundering at every door were not a sufficient demonstration, it is possible, by actual figures, to prove that we have been exporting many commodities actually beyond our capacity to produce. Taking the three-year pre-war period as 100, we find in pork, for instance, the number of animals on hand on the 30th of June this year is variously estimated at from 92 to 98. The slaughter of animals during the year was at the rate of 179; the exports were at the rate of 215, and the natural consequence is that the price is at 250.

During the past year we have exported every last ounce of which the country during this period was capable of producing, and our national stock of cereals and animal products, proportionate to our population, was at the beginning of this harvest the lowest in our history, and many of us have been under the keenest anxiety lest we would face absolute shortage. This anxious period is now happily passed.

The demand in many commodities during the coming year is beyond our capacity to furnish if we consume our normal amounts. The necessity of maintenance of the Allies as our first line of defense and our duty to humanity in feeding the neutrals demand of us that we reduce our every unnecessary consumption and every waste to the last degree—and even then the world dependent on us must face privation. (See also pages 187 and 189.)

Owing to the limitation of shipping, we must confine our exports to the most con-



Photograph by A. E. Young

WHALEBACKS LOADED WITH WHEAT IN THE LOCKS AT SAULT STE. MARIE

On September 1 the exportable reserve of wheat in Australia was estimated to be 135,927,000 bushels; in India, 80,538,000 bushels; in Argentina, 26,107,000 bushels, and these reserves will be materially increased by the production of the next few months. If these stocks were available for the Allies, the wheat problem of North America would immediately be solved. Australia, however, is three times as far from Europe as is the United States, and therefore three times the tonnage is required to transport an equal quantity. Added to this, the submarine danger is twice as great.

centrated foodstuffs—grain, beef, pork, dairy products, and sugar.

We must control exports in such a manner as to protect the supplies of our own people. Happily we have an excess of some other commodities which cannot be shipped, particularly corn and perishables, and we can do much to increase our various exports if we can secure substitutions of these in the diet of our people; but above all we must eliminate our waste.

Our first duty lies to our Allies, and if they are to sacrifice a share of our food to neutrals, and if this is also the result of our own savings and our own productive labor, these neutrals should expect to furnish equivalent service in other directions to the common pool against Germany.

Populations short of food hesitate at no price, and in those commodities where there is demand beyond supply, whether food or otherwise, the old law of price-fixing by "supply and demand" is broken.

SPECULATION ENGENDERED BY OVER-DEMAND

Such an over-demand gives opportunity for vicious speculation and presents an instability to trade which necessitates widening margins in distributing profits and great damage to the consumer. It results in marking up the prices of millions of articles upon the shelves and engages the whole of the distributing trades in inherent speculation.

It is upon this question of price that I wish to dwell for a moment.

We have all listened to the specious arguments of the siren of high prices; it is heralded as the mark of prosperity and to possess economic advantages; it is advocated as a conservation measure. It is true, high prices reduce consumption, but they reduce it through the methods of famine, for the burden is thrown on to the class of the most limited means, and thus the class least able to bear it.

There is no national conservation in robbing our working classes of the ability to buy food. High prices are conservation by reducing the standard of living of the majority. It works no hardship on the rich and discriminates against the poor.

Real conservation lies in the equitable distribution of the least necessary amount, and in this country we can only hope to obtain it as a voluntary service, voluntary self-denial, and voluntary reduction of waste by each and every man, woman, and child according to his own abilities; not alone a contribution of food to our Allies, but a contribution to lower prices.

We have and will retain sufficient food for all our people. There is no economic reason why there should be exorbitant prices. We are not in famine. It is obvious that our people must have quantities of food and must have them at prices which they can pay from their wages.

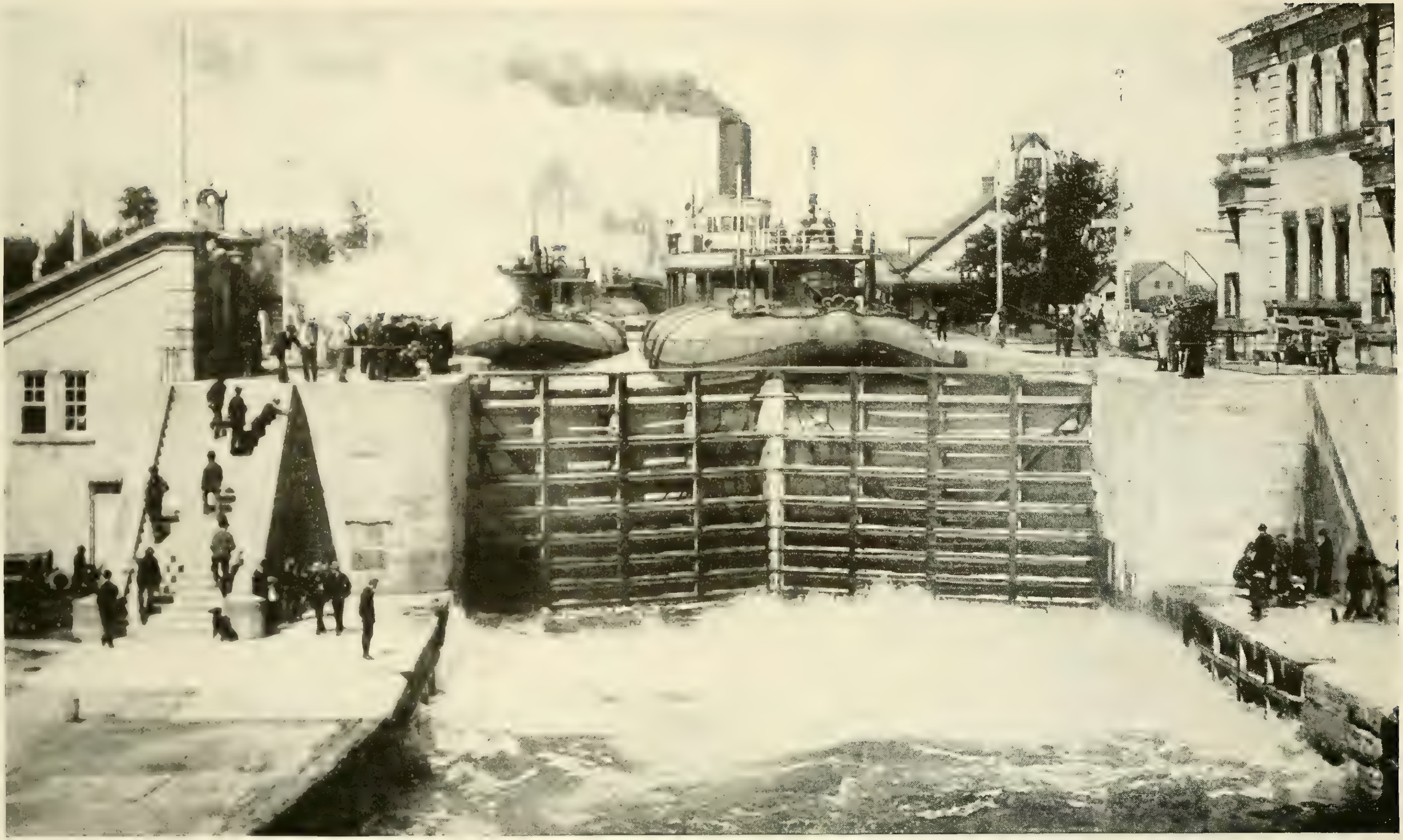
HIGH PRICES LEAD TO STRIKES, DISORDERS, RIOTS, AND UNDERMINE NATIONAL EFFICIENCY

If we are to have ascending prices, we must have ascending wages. But as the wage level rises with inequality, it is the door leading to strikes, disorder, riots, and defeat of our national efficiency. We are thus between two fires—to control prices or to readjust the income of the whole community. The verdict of the whole of the world's experience is in favor of price control as the lesser evil.

There are few who will dispute the advantage of such regulation as will eliminate speculation and extortionate profits. This is difficult to disassociate from fixing of prices, yet a great deal may be done by simple regulation and the organization of trades to police themselves under government patronage—to put regulations into force as will protect the legitimate and patriotic trader—for no one will deny that speculation against the consumer is a vicious crime in our present state.

The large question of the hour is price-fixing, because the suspension of the law of demand and supply as an equitable economic law is forcing our hand in every direction.

The total experience of Europe has demonstrated that many methods of price control, such as maximums and minimums, are a fallacy, and in themselves stimulate evasions and generate economic currents, which, while they may be a temporary palliative to a situation,



Photograph by A. E. Young

WHEAT WHALEBACKS LOWERING IN THE LOCKS FROM LAKE SUPERIOR TO LAKE HURON

Europe insists upon wheat for bread, for her peoples do not understand the value of corn as food (see page 191). As a matter of fact, there is more nutritive value in a dollar's worth of corn meal than in a dollar's worth of wheat flour. Italy is the only European nation which accepts corn as a proper foodstuff. There are four bushels of corn raised in America to one of wheat, and if corn were used here as a substitute for wheat, enough of the latter would be released to make up the European deficit.

Photograph from Food Administration

WASHINGTON FIREMAN CANNING HIS CORN CROP

Many of the fire-fighters in the nation's capital did their bit this past summer by raising produce on vacant lots adjacent to the fire stations. This patriotic fireman harvested his crop and carried it to the nearest community canning center, where he donned a gingham apron, rolled up his sleeves, and "put up" his winter's stock of this delectable food.

ultimately wash away the very foundations of production and distribution.

Of European experience in price-fixing practically but one formula has remained, and that is the fixed specified price for every stage of a given commodity, from its raw to its finished delivered state, based as nearly as may be on the cost of production and reasonable return on capital.

We will find, as we go on with the war and its increasing economic disruption, that first one commodity after another will need be taken into control. We will, however, profit by experience if we lay down no hard and fast rules, but if we deal with every situation on its merits.

So long as demand and supply have free play in a commodity, we had best leave it alone. Our repairs to the break in normal economic control in other commodities must be designed to repair the break, not with a view to setting up new economic systems or theories.

PRICE-FIXING AND PRODUCTION

It appears to me we can divide our commodities roughly into four classes:

First. Those commodities of which we produce our own supply and for which there is no export or import business of such consequence as to influence the whole, such as corn, potatoes, onions, apples, and many others. Here the law of demand and supply still reigns, and we can well leave them alone, provided no person or persons attempt to upset the normal flow of barter, and then we can best deal with the person.

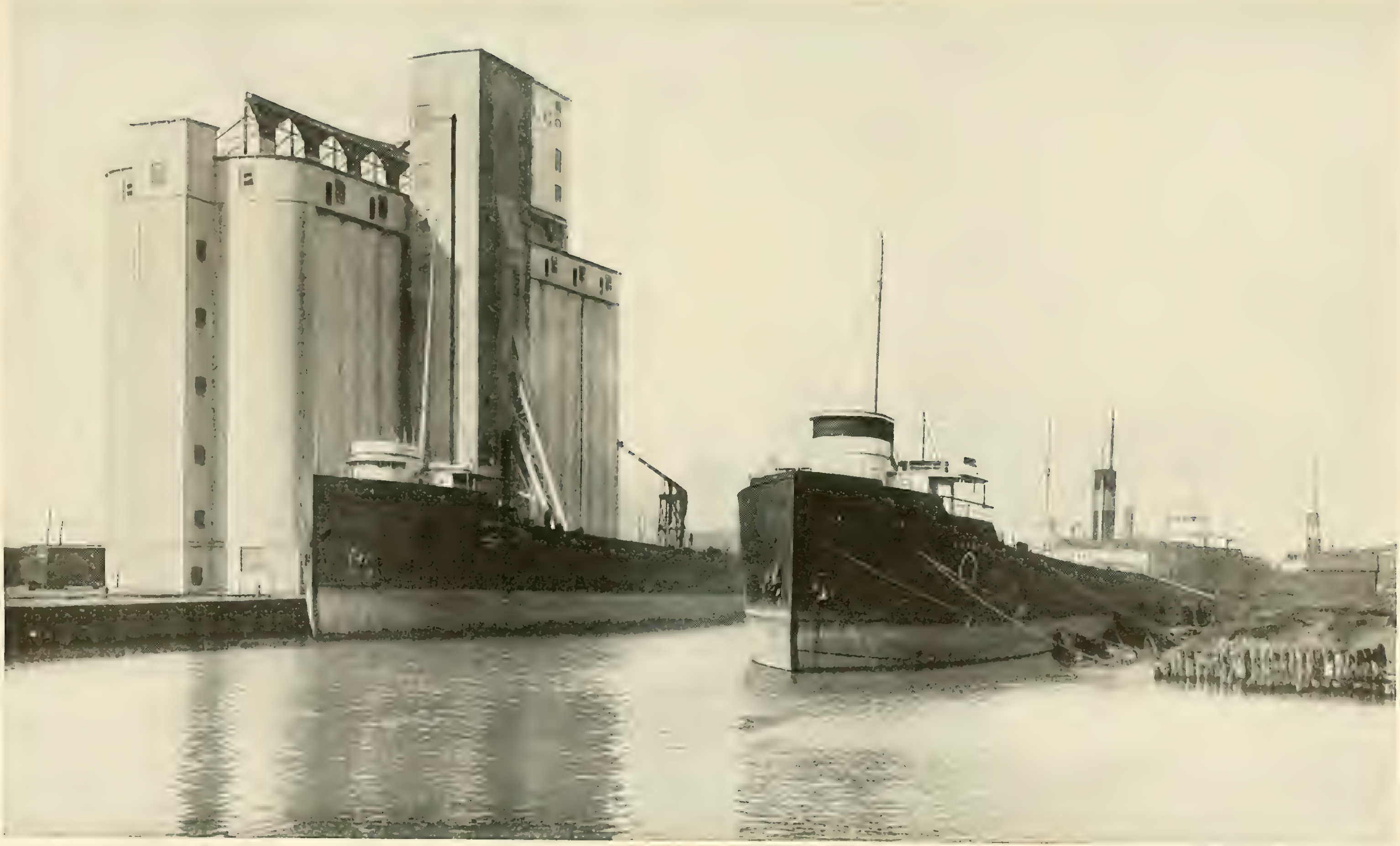
Second. Those commodities the export demand for which dominates the price. Here it is possible as a first step to regulate the export price. In such a class I may mention wheat and flour.

Nor have we much choice as to the matter of these commodities, for under the agreements between our government and the Allies our government must pur-

Photograph by Albert Schlecten

A WHEAT FIELD IN GALLATIN VALLEY, MONTANA

Great Britain normally raises about one-fourth the grain necessary for her bread, and France about one-half. War has greatly changed this situation, besides cutting off much of the imports from Australia and India. The burden of feeding the huge armies and much of the civilian population is thus thrown upon North America (see pp. 189 and 197). In addition to the obvious manner of increasing the supply, which is sowing a greater acreage, the most good can come from reducing the use of wheat to the minimum of necessity, substituting other cereals in the menu wherever possible.



Photograph by William H. Brandel

A HUGE WHEAT ELEVATOR AT BUFFALO, IN WHICH THE GRAIN IS STORED

To unload the vessel, wheat is pumped out through the chute, or "leg," shown in the photograph. Modern elevators eliminate waste and labor in the handling of grain. Bags for a $10,000 wheat crop cost the farmer $500 and add to the freight weight, cause loss through holes, require a large force of handlers, and lead to unfair reductions for the value and weight of the bags. In a ship, sacked grain requires twice as much space as bulk grain.

REMEMBER JACK SPRATT
Why serve the fat to those
who don't care for it
The trimmings saved from six slices
of ham will shorten this gingerbread

Photograph from Food Administration

"FATS MAY WIN THE WAR"

We are said to consume three times the fats necessary for proper nutrition

chase or direct the purchase of Allied supplies in this country, and as these purchases in many commodities dominate the price, we are face to face with price determination whether we will or not.

Third. Commodities where internal demand exceeds the supply and where direct exports alone do not sufficiently influence the price; and here we are driven to price-fixing at once, to which coal has already fallen.

Fourth. Commodities where our imports control the price. We can in some instances control the volume and price of imports so as to regulate price, and it is obviously in our interest to export as little of our money as we can.

In all control of price, there is one dominant factor. The very need of price control is proof of insufficient production, and in war the necessity itself transcends the cost. Therefore, the constant dominant thought in price must be the stimulation of production.

There is, however, a point at which stimulation is attained. To get ninety per cent of volume of production costs one price, and the need of the commodity to secure each advancing unit of production towards one hundred per cent becomes a problem of balance in the necessity for the commodity against the burden of the consumer.

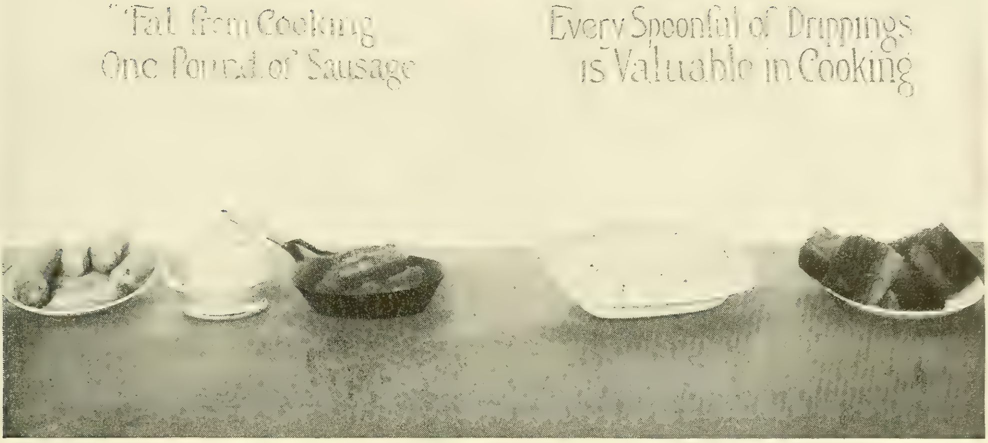
We have in the Food Administration put into action a form of price control through purchase of the exports of wheat and flour. The government must buy or contract the buying of wheat for export and the export volume controls the price. We were immediately confronted with price determination.

FOR THE FIRST TIME IN HISTORY THE FARMER HAD A VOICE IN PRICE-FIXING

To determine it we called in the farmer himself, and gave him the majority of the commission, to determine a fair price.

We gave him the national balance and prayed him to weigh carefully and justly. For the first time in history he had a voice in fixing price, and unanimously determined $2.20 per bushel, with certain differentials on locality and grade.

We then created a voluntary engine of our best commercial men to carry this de-



Photograph from Food Administration

AN OBJECT-LESSON IN THE CONSERVATION OF FATS

"Starvation or sufficiency will in the end determine the victor in this war"

cision into effect, and to eliminate all speculation, and to reduce the cost of distribution, in hopes of finding relief to the consumer. We can now measure the results. The farmer will receive about 60 cents per bushel more for his wheat than his average last year. Sixty cents per bushel is equal to about $3 per barrel in flour. The price of wholesale flour is today $3 per barrel less than the last four months' average.

So here is the measure of reduced speculation and distribution charges—$3 per barrel increase to the farmer and $3 decrease to the consumer.

The Food Administration has no powers to fix prices except through the export buying, the power to buy and sell certain commodities, and the further power to enter voluntary agreements with producers. A case of the latter lies in sugar, where we agree with 95 per cent of the beet producers that they shall fix the price at a certain figure, and we propose to reinforce this by the control of imports, and if necessary to enforce other measures against the five per cent if they fail to fall in with the majority.

Each and every commodity has its own situation; each must be handled on the merits and with least interference by government that will effect purely war ends, and each by coöperation with the industry itself.

LITTLE POWER OVER PRODUCER AND RETAILER

One illusion in the mind of the public I am anxious to dispel: The Food Administration, through its own authority and the coöperation of other government agencies, can accomplish a great deal, but it is limited absolutely to that area of commerce between the producer and the retailer. We are stopped in law within this area; we can only use influence on both the retailer and producer, and depend upon their patriotism. In this area we can only regulate the flow of trade and hold it to moderate profits and excise speculation. This is an economic step short of price control—except where we can accomplish price control by the indirect means I have quoted above.

In the Food Administration we intend to confine ourselves to ten or twelve fundamental staples—those food commodities that make up the basis of life—we take no interest in the luxuries or even semi-luxuries. We have laid down certain principles of coöperation with the business community, and if we are to succeed on these lines we must have their support.

We are asking the various trades in

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WHEN THE DÉBUTANTE DESERTS THE BALL-ROOM FOR THE DAIRY

One of the most important fields of endeavor open to women in the present national crisis is the management of farms and dairies. On the New York State School of Agriculture's farm at Farmingdale, L. I., where this picture was taken, girls are taught the most advanced methods of scientific dairy management. The loyalty, diligence, and intelligence of such workers will be of material aid in preventing the price of butter soaring to $1 a pound in the United States, as it has in European countries.

these particular staples to coöperate with us in organization of the trades to the end that all transactions shall be direct in the normal flow of distribution: that speculation shall be excised; that goods shall be sold both by producer and distributor at least at a reasonable and normal charge over cost, or even without profit.

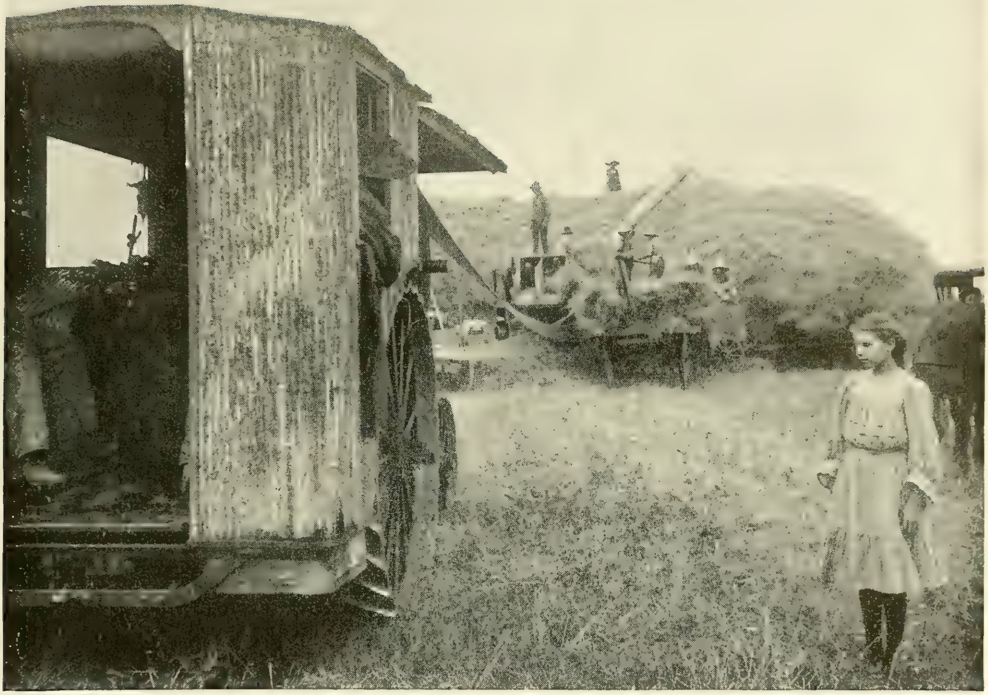
THE PROFITEER A MODERN JUDAS

It appears to us that no right-minded man in this community wants extra profit from the war. If he does he should be branded with the brand of Judas for selling the blood of our sons for profit.

The Food Administration today is directed by a body of 250 volunteer representative business men, producers, and experts, and up to date it has held over 200 conferences with representatives of trades and producers. We have asked them to help in formulating plans to conserve, to stimulate production, and, above all, to regulate distribution. Most have been helpful, and in instances where organization has been completed the devotion of the business men has been above all praise, and in some cases we have so far failed to secure this coöperation in a discouraging way; but I am not, in view of the success in some lines, prepared to say that the experiment is either a success or a failure.

But let no one be under the illusion that selfishness or greed has disappeared from this great republic. There passes over my desk daily a sickening mass of evidence of individual, sectional, and class avarice and self-interest, backed by demand and threat, that is illuminated by rarer instances of real support in the gigantic task of government in this crisis.

We wish for coöperation in service



© Keystone View Co.

THRESHING OATS IN ILLINOIS

Coöperating with the Food Administration are thousands of retail stores located in every part of America. They display cards in their show-windows bearing food-conservation pictures and slogans. One which is being widely used shows four jars containing corn meal, rye flour, oatmeal, and barley and under them the words, "Eat more corn meal, rye flour, oatmeal, and barley—save the wheat for the fighters."

from our commercial community. We wish to stamp our commercial community with the stamp of service in public interest. Compared with the sacrifice of our sons and brothers, it is but little to ask. And it is a service which, if given now, will not be without interest returns for the future. This interest in a thousandfold will come in two directions.

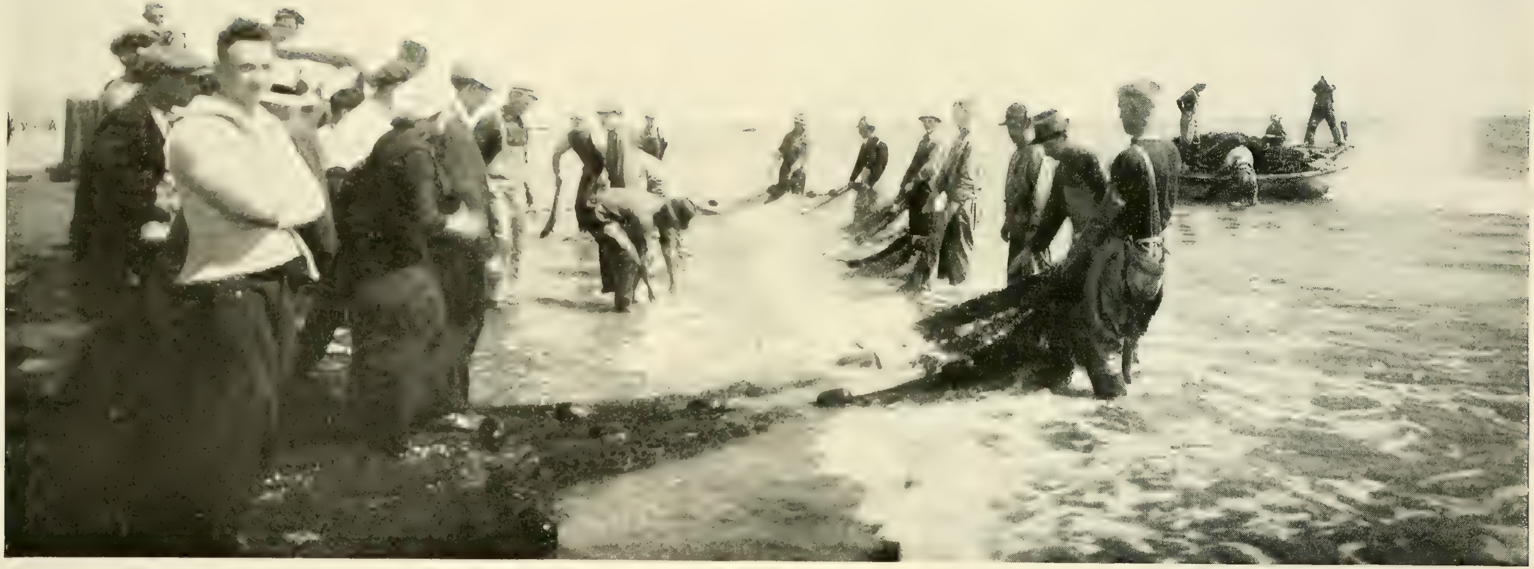
THE LOOMING SHADOWS OF SOCIALISM

If we receive this support, we will have demonstrated the falsity of radical claims as to the necessity of socializing our industries. If we fail we will have given impulse to these demands and ground for their complaints.

One looming shadow of this war is its drift toward socialism, for with the gigantic sacrifice of life the world is demanding a sacrifice of property, and we will surely drift to that rocky coast unless we can prove the economic soundness and willingness to public service of our commercial institutions.

It is worth while examining the developments in Russia from this point of view. Here no practical or effective form of commercial regulation or distribution was undertaken. In consequence of speculation, profiteering, and the failure in commerce to serve public interest, the condition of the industrial classes became so intolerable as to steam the hotbed of revolution.

Justifiable as this revolution may have been and as great a cause of liberty as may result, no one can deny that the whole trend of this revolution has been socialistic, and the latest phase is a development into practical socialism. This strain in the revolution, I am convinced from much experience in Russia, was the reaction from failure of the government and the commercial classes to meet their public duty.



Photograph from U. S. Bureau of Fisheries

HAUL-SEINING ON THE COLUMBIA RIVER, OREGON: REMOVING THE SALMON FROM THE NET

The number of wholesome fish which can be used for food is astonishing, even to people who are familiar with fish, because the general public knows only a few varieties and neglects several times as many more which are just as wholesome and usually cheaper. In the consumption of fish we stand far behind some of the other nations. A nation-wide movement for the popularization of frozen fish is recommended for this winter. Thousands of tons of this product have been sent from New England to feed the armies of Europe.

Photograph by Henry O'Malley

A BOY WITH A 60-POUND CHINOOK SALMON CAUGHT IN THE COLUMBIA RIVER

Photograph by Curtis and Miller

HALIBUT STEAKS WILL HELP WIN THE WAR BY SAVING MEAT FOR THE FIGHTERS

Photograph by Paul Thompson

A TYPICAL MESS LINE AT A NATIONAL GUARD ENCAMPMENT

Good food, well prepared and plenty of it, is the invariable rule at all of our new army centers. The men who not long ago were clerks and office workers with soft hand and pale faces are now hardened up and have taken on a deep tan. The physical work of the soldier requires great quantities of hearty food and he is getting it. The extremely small number of men in the camp hospitals is an indication of how well they are fed. The camp cooks have no sinecure.

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IN THE CULINARY DEPARTMENT OF THIS BATTERY OF FIELD ARTILLERY HUNDREDS OF POTATOES MUST BE PARED, AND FIVE MEN IN THE PICTURE ARE BUSILY ENGAGED IN THE TASK

The work of these splendid fellows includes many uncongenial tasks, like peeling potatoes, but they meet and master every situation cheerfully. Those who cannot serve in uniform can help by enlisting in the food-conservation army. "Compared with the sacrifice of our sons and brothers, it is but little to ask. And it is a service which, if given now, will not be without interest returns for the future" (see text, page 207).

© H. C. White Company

CODFISH DRYING IN THE SUN: GLOUCESTER, MASSACHUSETTS

Gloucester is the leading fishing port of the country, and is especially noted for its trade in cured fish, chiefly cod, haddock, and other "ground fish," which are caught on the banks lying off the New England coast and the British provinces.

THE UGLY ALTERNATIVE IS A GOVERNMENT OF THE GERMAN TYPE

The other end to be attained is of profound importance. The alternative to failure of our commercial system to maintain its place and at the same time serve public interest is rigid autocratic governmental organization of industry of the German type. Such organization is autocracy itself; it breeds bureaucracy and stifles initiative, and thus democracy, at its birth.

We must organize—we must mobilize—our every national energy if we are to win this war against the organization perfected by autocracy. Either we must organize from the top down or from the bottom up. One is autocracy itself; the other, democracy. If democracy cannot organize to accomplish its economic, as well as its military defense, it is a false faith and should be abandoned.

The Food Administration has appealed to the commercial community to march with it to an organization democratic in its inspiration and vital to our defense.

If we succeed, we shall have assisted our commercial institutions to their own stability in after years, and beyond this they will have proved that democracy is a faith worthy of defense.

THE GEOGRAPHY OF MEDICINES

War's Effect Upon the World's Sources of Supply

By John Foote, M. D.

WHEN the war cloud burst in Europe a sudden paralysis of credit temporarily engulfed the Western World. As business relations were restored, ocean travel resumed, and traders set aside the sense of danger, certain secretive individuals crossed from Europe, keeping to themselves and avoiding smoking-room conversation, using the wireless overmuch, and receiving daily aërograms in private code. They were speculators, gamblers, these nervous, anxious-looking unknowns, not dealers in war materials nor food, but speculators in drugs—the kind of things that you and I so frequently buy in the corner drug store.

To gain possession of existing stores of German manufactures, and especially German patented chemicals, was the game these gentlemen played, and at such enormous profits as to make the plungers in "war brides" of later days seem conservative bankers by comparison. For instance, the speculator who in July, 1914, invested $1,000 in antipyrin, used extensively in headache remedies, would in 1915 or 1916 have a profit on his purchase of $19,000, with no possible chance of a slump in the market. This was practically true of all patented German medicinal chemicals in general use, as well as many substances necessary in the arts and sciences.

No merchant sells more diversely born or more widely traveled merchandise than the pharmacist, and accordingly no business is so quickly disorganized when trade routes are disturbed as the importing and distributing of drugs; for the arteries of trade are like the arteries of the human body—sensitive throughout to any change in the volume of flow in even the most remote branch.

The law of supply and demand applies likewise to drugs; therefore it would be as natural to expect a rise in German chemicals as to look for an increase in the cost of coal if all the mines stopped working for a year.

For a time no marked change occurred in drugs imported from neutral lands, for there were large stocks on hand; but as trade routes were disturbed by the closing of old markets and the difficulties of transportation increased, due to hazards of the sea, and consequently warehouse stocks were exhausted, slowly but surely came the upward swing in the cost of dozens of crude drugs and their by-products—drugs which are gathered in strange nooks and in hidden corners of the world as far from the clash and the turmoil of battles as ever they could be.

"EAST IS EAST AND WEST IS WEST"

It is many a weary mile from the ancient Persian city of Herat, in Afghanistan, to the Western war front, as it is from the Western war front to the East Side of New York, and the men of the Four Tribes had never heard of Moe Klipstick, nor of the druggist at the corner of Third avenue; yet each was related to the other in terms of world commerce, and I will tell you how.

Morgab the Younger, like his ancestors of the Four Tribes, went down yearly from the old city of Herat, midway between the mountains and the Persian desert, to the arid plains, which, after the rains, waxed rich in verdure, because it was here that, with much back-bending, he incised the Ferula root and obtained its milky gum, which he sold to traders in the market-place of his native city that they might, in turn, send it far away, whither and why he knew not nor cared.

Around the caravan fires at night he had heard mutterings of a great war between the Russians and some other unbelievers, and though trading was better since the Russian railroad had come to within 65 miles of Herat, across the mountains, yet he did not like those Muscovites; so, Allah be praised! let them fight among themselves; it was well they should. It could not hurt him!

Months passed, and one day, after an absence on the plains searching out and

© Mrs. H. P. Kimball

A NATIVE DOCTOR AT WU HU, CHINA, WITH HIS MEDICINES SPREAD ON A SHEET

American patients would probably not thrive under Chinese medical treatment; but at the same time the American drug store would lose some of its best medicinal materials were China cut off from trade with the United States.

collecting that which he could sell, he found his way back to the ancient city of his birth, sweating beneath a back-load of reeking asafœtida gum, and even his calm Eastern mind was disturbed and rendered uneasy to find the market-place glutted with the ill-smelling stuff he had toiled so hard to obtain.

Everywhere was merchandise and everywhere profane excitement. Gaunt camel drivers from the across the mountains in Turkestan murmured, first spitting upon the ground in testimony of their contempt for the Christian dogs; how the Russian railroad had refused to transport their great bales and boxes; others told how the boats on the Oxus were already overloaded and left great piles of freight to spoil on the docks. From Kabul came whispers of the Pathan preparing to war in strange lands and having no time for trade. Certainly ill luck stalked at will throughout the land of his fathers.

In the cool of the evening, when the sun had set and he and his fellows gath-

WHERE DRUGS ARE SOLD: BEERSHEBA, ARABIA

"Gum tragacanth—used as a substitute for gum arabic in medicine and the arts, of which Aleppo, an ancient Syrian drug market, where Venice had warehouses in her golden days, is the trade center, is shipped through Aden or the ports of India" (see text, page 235).

ered together to discuss the strange happenings unknown before in their lives, there came forth strange tales of the deadly perils to ships on the seas—since across the far deserts, in the Persian Gulf, strange sea monsters lay in wait for peaceful traders and destroyed them from below. And Morgab, because he was weary and penniless and very sick at heart, cursed Something—he did not know what—for the calamity that had come to him unbidden.

THE FIRST PINCH

It was fully a year later when Moe Klipstick, who resided in Manhattan, hurried to the drug store at the corner of Third avenue to buy a remedy beloved of his fathers, so that his little daughter—one of the myriad that swarmed in a reeking tenement—might be protected against infection from infantile paralysis. (Such is the pathos of ignorance! For did not *pharmakon* originally mean magic?)

But lo! when he asked for five cents' worth of asafœtida, which was to be put in a bag and suspended about his daughter's neck, the drug-store "doctor" told him abruptly that he could not sell such a small quantity, since asafœtida had gone up "on account of the war." Staggered and humiliated by this unexpected catastrophe, Moe Klipstick slunk from the store, nervously fingering his solitary coin.

When the tiny girl was taken sick a few days later and her restless little feet grew limp and inert, Moe Klipstick raised up his patient voice in puzzled protest at the militant Russia from which he had fled, but which still pursued him and denied him strong-smelling medicines to save the life of his baby.

THE FAR-REACHING TIDE OF WAR

So the many strange conveyances for drugs—dromedary caravans in Persia and Arabia, side-wheel steamers in the reaches of the Amazon, spice trains in

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A FAST FREIGHT IN CEYLON

Nux vomica is another important drug that comes from the far-away regions of the earth, and reaches western nations only by the long hauls that high ocean-freight rates largely preclude in these days of submarine warfare. It consists of the dried ripe seeds of a small tree which grows in India, Hindustan, Java, Sumatra, Malabar, Ceylon, and North Australia. The tree resembles our dogwood, and its fruit looks like a small orange. The flat seeds, sometimes known as dog buttons and crow figs, have the pulp removed from them by the natives. Strychnine is much prepared from nux vomica.

Aleppo, bullock carts in Ceylon, dog sledges in Siberia, swift dahabiehs on the Nile flood, great lumbering junks bumping along on the thousand-and-one yellow streams of China, pannier-laden coolies in Formosa—all sooner or later were to feel the paralyzing influence of the world war on peaceful trade and exchange. And even in the far places, out at the very rim of the world, strange tribesmen were to cry aloud in outlandish tongues against this invisible clutching thing which, while they wondered, took away their bread.

It was the trade in drugs and spices which made Venice from the thirteenth to the sixteenth century the most important commercially and the richest city in Europe, and it was the loss of this commerce which caused her rapid deca-

Photograph by O. W. Barrett

WINNOWING MAFURRA SEEDS FOR EXPORT AT CHAI-CHAI, ON THE CROCODILE, OR LIMPOPO RIVER: PORTUGUESE EAST AFRICA

The seed contains about 60 per cent of oil and tallow and is worth about $25 to $35 per ton f. o. b.; about 3,000 tons are exported (mostly from Inhambane) and at least 100,000 tons are left to decay. The tree is *Trichilia emetica,* a relative of the Mexican mahogany.

Photograph from Charles K. Moser

THE WATER FRONT AT MUKALLA, ON THE INDIAN OCEAN, COAST OF ARABIA

Myrrh comes from a tree developed in the form of an undergrowth in the Red Sea coast, where vegetation is scant, water scarce, and temperature high. Myrrh is formed like cherry-tree gum, or from artificial incisions through the thin bark. It is at first a juice, then oily, soft, yellowish, golden, finally hard and reddish. It is collected mostly by the Somali, both at home and across the Aden Gulf, in Arabia, and formerly entered commerce by way of Egypt. It is now, in normal times, carried to the great fair of Berbera, there purchased by the Banians of India, and shipped by way of Asia to Bombay, where it is assorted into grades and put into chests and sent to the markets of the world.

Photograph by Bourne & Shepherd

DOWN THE JHELUM, IN KASHMIR

"So the many strange conveyances for drugs—dromedary caravans in Persia and Arabia, sidewheel steamers in the reaches of the Amazon, spice trains in Aleppo, bullock carts in Ceylon, dog sledges in Siberia, swift dahabiehs on the Nile flood, great lumbering junks bumping along on the thousand and one yellow streams of China, pannier-laden coolies in Formosa—all sooner or later were to feel the paralyzing influence of the great world war on peaceful trade and exchange" (see text, page 215).

© Mrs. H. P. Kimball

BURDEN BEARERS IN JAVA

The Dutch East Indies have for centuries supplied the Western World with much of its spices and more of its raw drugs. Tens of thousands of tons have gone to market in such baskets as these.

dence and the passing of her riches and her glory.

THE SUBMARINE, THE AËROPLANE, AND CASTOR OIL

It is not generally known that most of the castor bean from which castor oil is pressed comes to the United States from India. Indeed, our annual importation in normal times is nearly a million bushels. The Orient has always produced this "delicacy" of our childhood days, and it is interesting to remember that the Ebers papyrus, an Egyptian medical manuscript, written when Moses was a young man, speaks of the medicinal virtues of the castor plant.

Today importers are viewing with apprehension (and children with joy) the castor-oil situation. Not only is production lessened, but with the difficulties of sea transportation from India are increasing with the lack of ships. In fact, earth, heaven, and ocean seem to conspire against castor oil; submarines are ambitious to send it to the bottom of the sea, while aëroplanes demand it as a lubricant in large quantities. Therefore, with our ambitious air program and our diminishing supply of oil, we have reason to study the situation a little.

However, the castor plant will grow rapidly almost everywhere; it is frequently seen cultivated in our gardens. The machinery for crushing is also available; so if a shortage really becomes inevitable, the Department of Agriculture will be able to incubate another infant industry.

THE GLORY OF VENICE AND THE DRUG TRADE

The story of Venice is so essentially romantic that to mention commerce in connection with it seems out of drawing. Yet it was as merchants that the Venetians were famed. The traffic in spices and aromatic drugs began to assume vast

Photograph by A. Nielen

MASSING THE FLEET: SINGAPORE

The island of Singapore is an important producer of herbal medicines. One of its crops is aloes. This is a drug of great antiquity, which has figured in tens of millions of tonic and cathartic prescriptions. It is grown much like opium—the tears of sap gathered as they form on artificial incisions. It is also prepared by evaporating decoctions of the leaves.

proportions in the Middle Ages, as the people of Europe became educated to a hunger for the spicy flavors of the East. From India and China and Persia came not only silks and laces, but, more important, spices and oils and drugs, and Venice was quick to realize the importance of having this commerce pass through her port.

The knowledge of medicines used by the Moors and Arabs, which was brought back by the Crusaders, helped to educate the people of many lands to the uses of balsams and spices of the Oriental markets. The embarkation point for Palestine was Venice. The Venetian merchant marine profited well by furnishing transport service, and during the Fourth Crusade, finding the Crusaders unable to pay their passage money, the Venetians forthwith enlisted them as soldiers in a war against their Christian neighbors, the Dalmatians, and the Infidels got off scot-free!

THE MERCHANTS OF VENICE

Acre, held by the Crusaders as a Christian bulwark in the Holy Land from 1191 to 1291, has a custom-house record of great quantities of rhubarb, musk, pepper, cinnamon, nutmegs, cloves, aloes-wood, camphor, frankincense, nutgalls, and ginger which were stored there en route to Venice. The Venetian merchants rolled in wealth, for they fared far and wide and their galleys were known on every sea. Huge storehouses were erected wherever they traded—as far away as Beirut, Ajaccio, Aleppo, Alexandria, and even in the thirteenth century they imported from these places myrrh, sandalwood, camphor, indigo, and spices. In the fourteenth century Venice fought Genoa for trade mastery, and thence forward was supreme. Daru in his "History of Venice" estimates and translates the value of Venetian exports in the fifteenth century as $10,000,000 annually—a sum larger that a billion in these times. She possessed at this time 300 great man-propelled galleys, or argosies, and several thousand smaller vessels, with 45 large war craft.

In the Rialto was the center of Venetian commercial life. Here Shakespeare pictured his Antonio, whose mind he represents as "tossing on the ocean" with his argosies. Across the Alps went German caravans from Venice; up to Holland and Belgium sailed her Flanders galleys, precursors of our armed merchantmen, each rowed by 180 oarsmen, with archers for protection against pirates. Venice met at Bruges the merchants of northern Europe, though some galleys also went to London and Southampton. Venice served Europe well as a carrier, but she exacted heavy toll in payment.

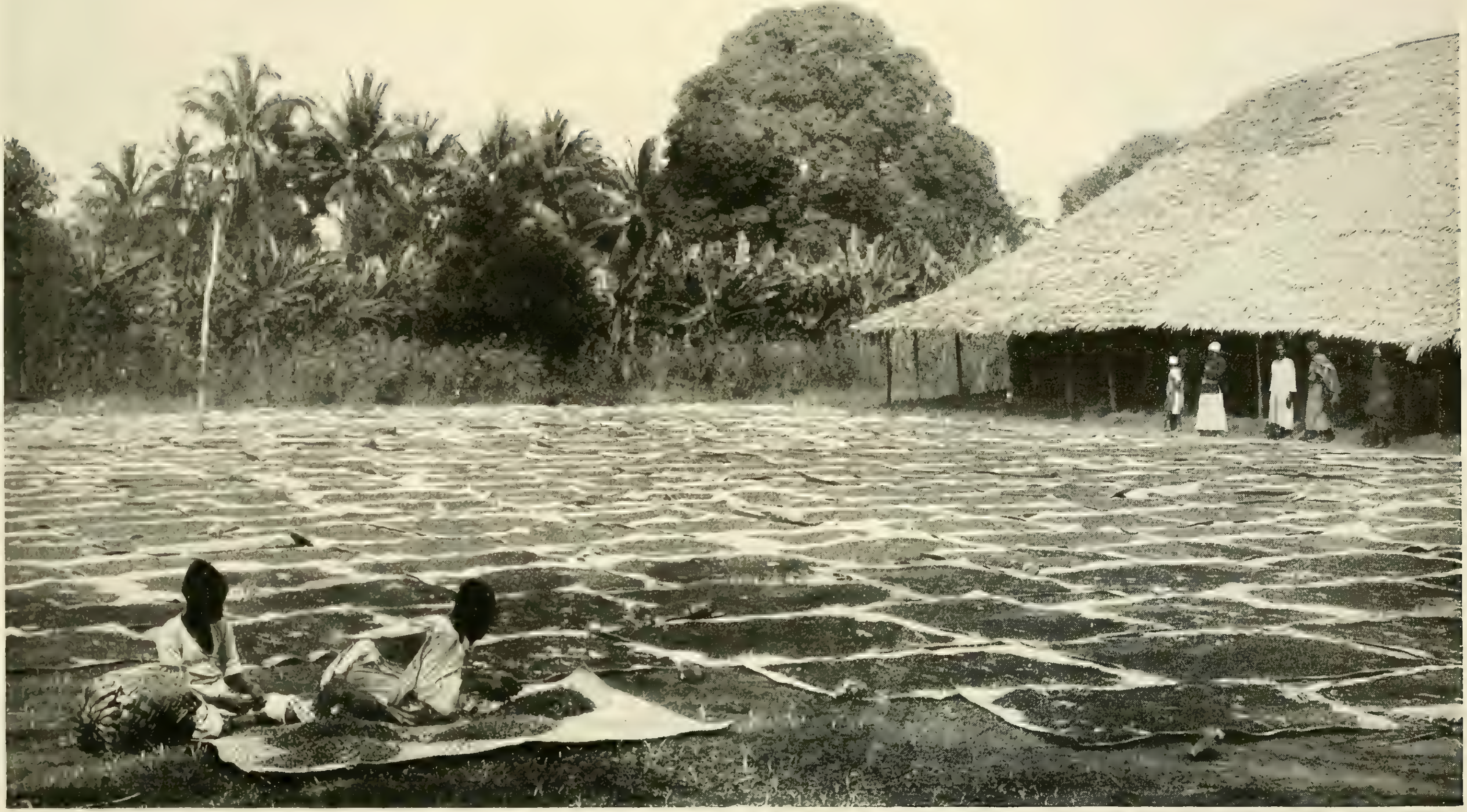
THE DECADENCE OF VENICE A MATTER OF GEOGRAPHY

The monopoly of Venice was resented, as is inevitable; her prosperity was envied. This is why all the explorers of that period sought a short ocean route to India. Columbus, it will be remembered, sought the "spices of the Indies" rather than a new land. So from the hour when, on May 20, 1498, Vasco da Gama fulfilled the ambition of his Portuguese sovereign, blazed a new trail in the uncharted deep and sailed into Calicut, after rounding Cape of Good Hope, the commercial greatness of the Italian port was doomed.

When the news reached Venice that Portuguese carracks laden with spices had come into the harbor at Lisbon without the necessity of touching at Venice "the whole city was disturbed and astounded," so says the ancient chronicler, Priuli, in his diary. They had ample cause for worry, for they faced the inevitable.

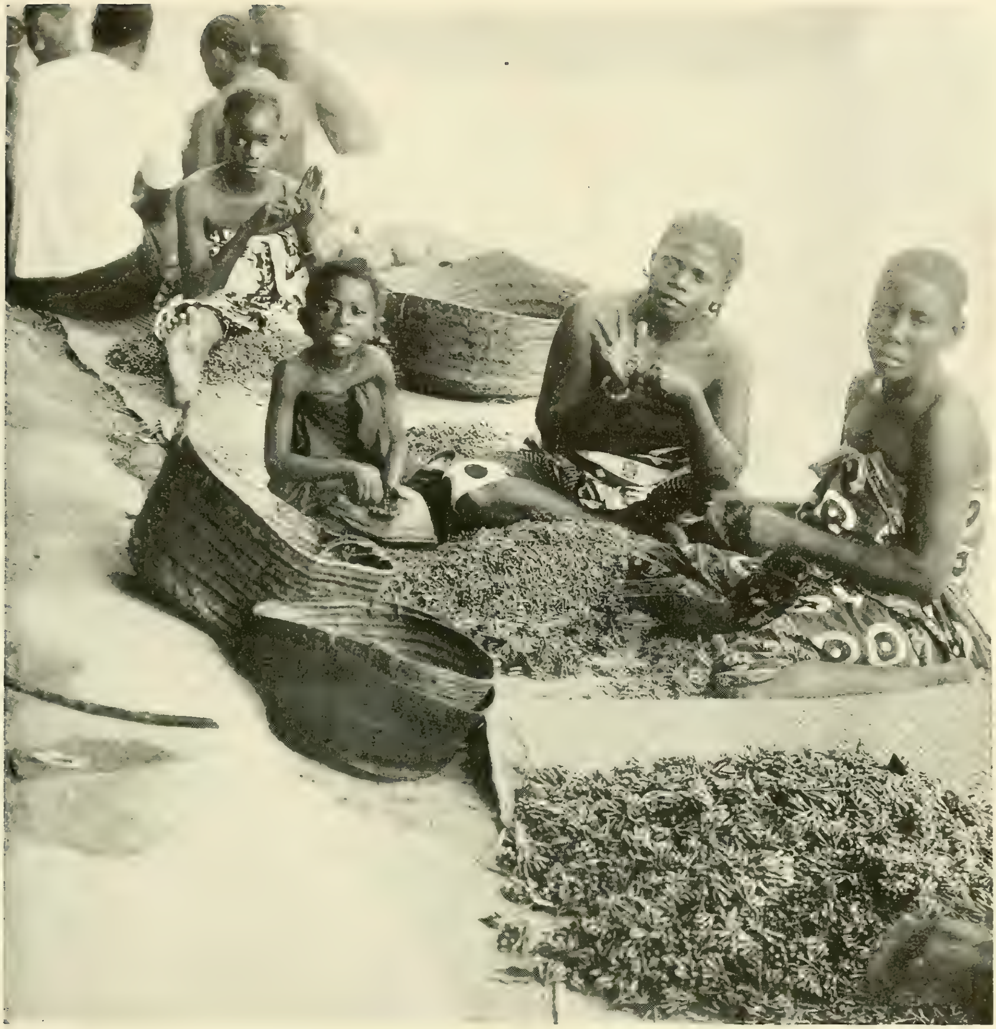
THE WARS OF THE CLOVE

How Venice warred on Portugal; of the later wars between Portuguese, Spanish, Dutch, and English to assert supremacy in the spice and drug trade; of the long voyages, with decimation of the crews by pirates, by mutineers, and by the often fatal and always horrible scourge of scurvy—these tales belong to the heroic age of the seas, and have furnished inspiration to many a poet and novelist. Noyes' "Knight of the Ocean-Sea," singing the praise of the English navigators, has caught well the spirit of those dauntless adventurers:



CLOVE DRYING IN ZANZIBAR

"In the beginning of the seventeenth century that odoriferous pistil (the clove) had been the cause of so many pitched battles and obstinate wars of so much vituperation, negotiation, and intriguing that the world's destiny seemed to have become almost dependent upon the growth of a particular gilly-flower. Out of its sweetness had grown such bitterness among nations as not torrents of blood could wash away" (see text, p. 227).



BREAKING CLOVES FROM THE STEMS: ZANZIBAR

The clove, as we know it, is the partially developed bud of a tree which grows to a height of about 15 feet. These buds are produced in great profusion in clusters. These clusters are gathered and dried, turning from red to brown. The unexpanded corolla forms the head and the calix the stem of the clove. Once dried, the cluster of cloves is broken from the stem by pressing them against the palm of the hand. The woman in the middle foreground is demonstrating the process.

"Marchaunt adventurers, chanting at the windlass,
Early in the morning, as we slipped from Plymouth Sound,
All for adventure in the great New Regions,
All for Eldorado and to sail the world around!
Sing! the red of sunrise ripples round the bows again.
Marchaunt adventurers, O sing, we're outward bound,
All to stuff the sunset in our old black galleon;
All to seek the merchandise that no man ever found!"

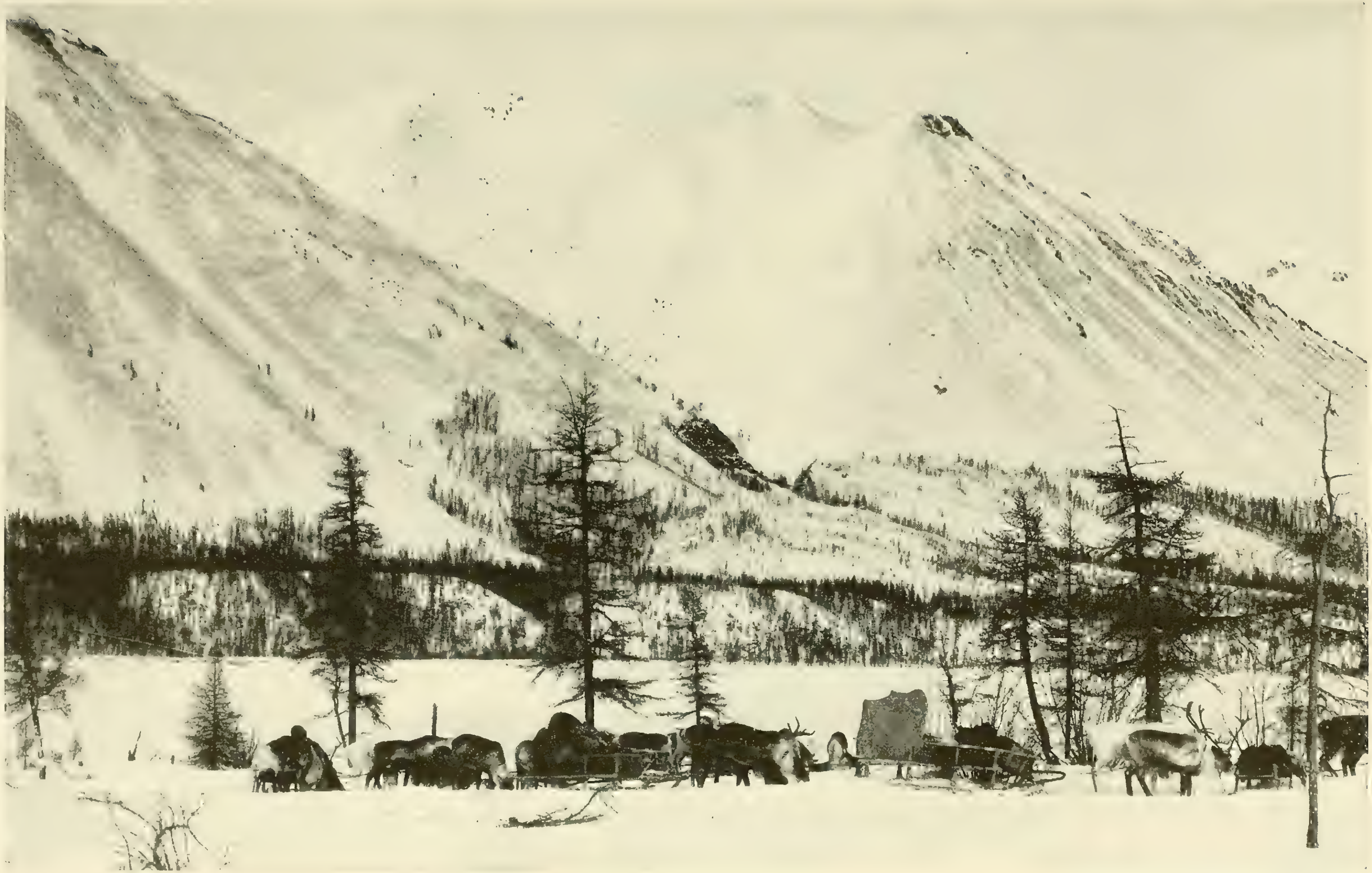
Well might he sing of Drake, and Hawkins, and Greenville, and Oxenham meeting, with their little 200-ton ships, the great galleys of Spain and defeating them! But the prizes they captured were galleons laden with cloves, and ginger, and pepper, and frankincense, and dragon's blood, and cinnamon, and when these cargoes were found they asked not for doubloons.

Motley, in his "History of the United Netherlands," emphasizes this point very

Photograph from Harold Hartshorne

A CANAL SCENE IN THE NEIGHBORHOOD OF COLOMBO, CEYLON

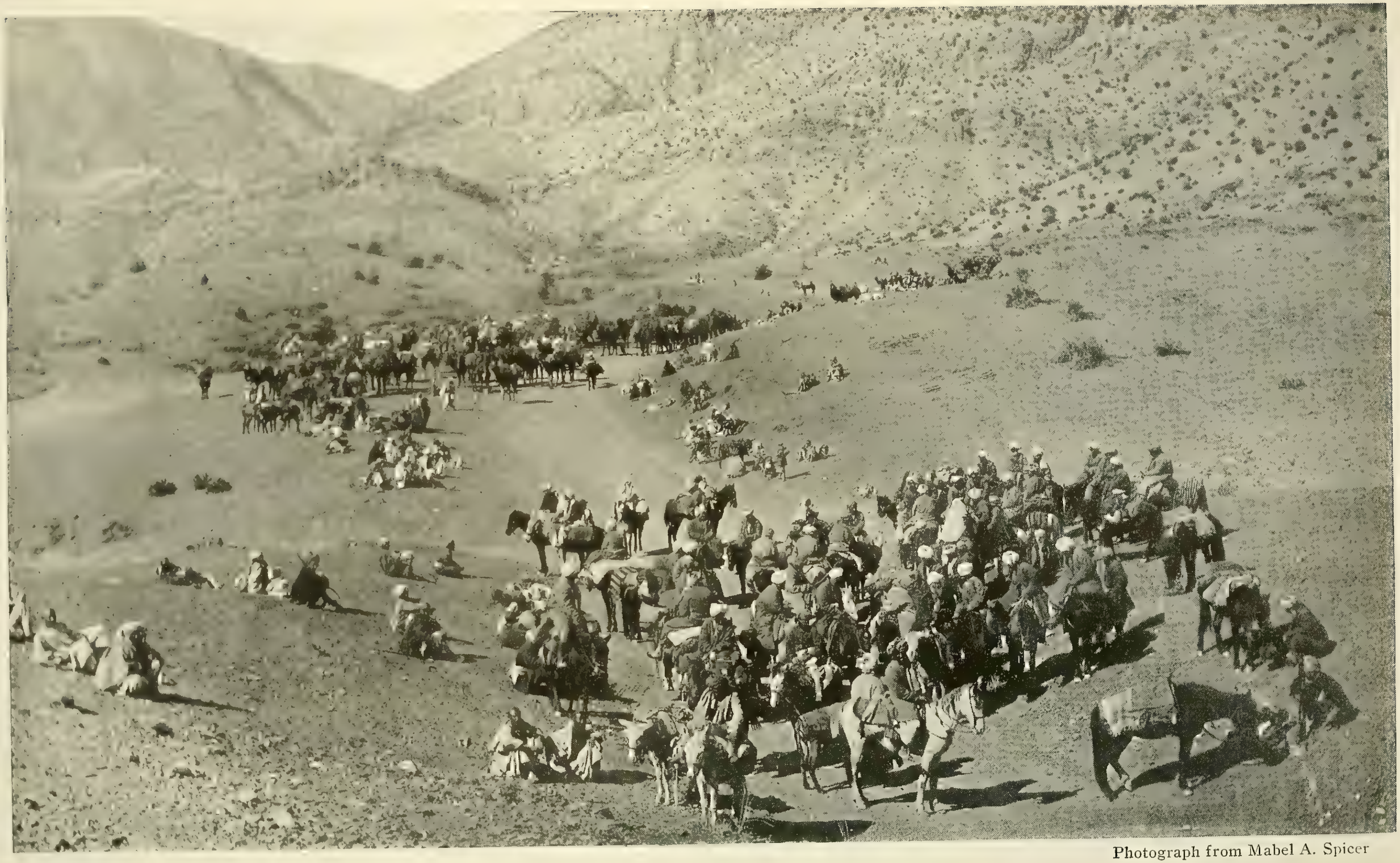
From the impenetrable jungle, the high plateau, the wilds of Siberia, the lonely reaches of Tibet, the wastes of Africa—from a thousand sources come the things which compose the medicine we take. A single prescription may call upon the resources of five continents in its filling.



Photograph from Walter L. Beasley

A YAKUT FREIGHT REINDEER CARAVAN CROSSING THE VERKHOYANSK MOUNTAIN

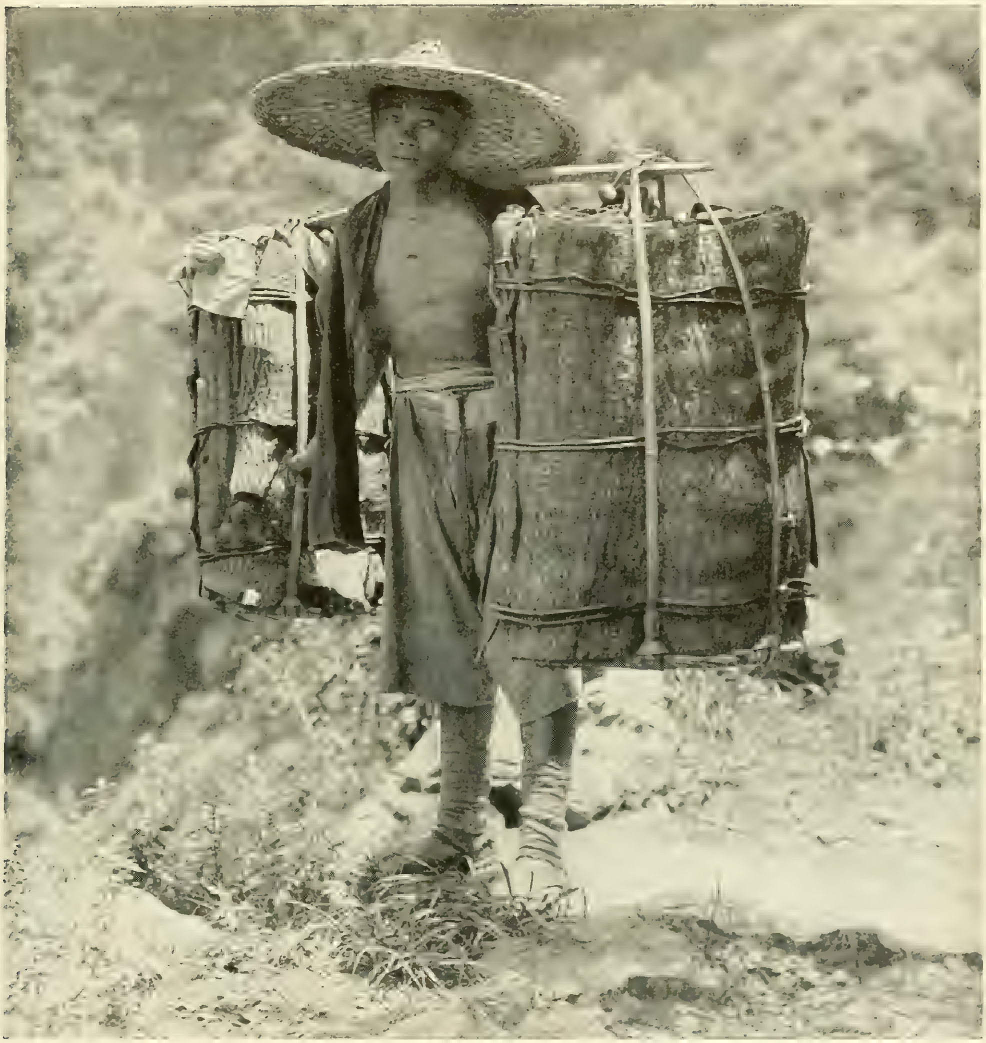
The caravans which carry raw drugs to market often come back with patent medicines made in America as a part of their cargo. A recent traveler from the Yakut region tells of being hailed with delight in a tiny shack town. A boy was sick and no one was there well enough versed in the art of dosing to measure out a spoonful of "pain cure" for him. The natives believe white man's medicine dangerous except when measured by a white man's hand.



Photograph from Mabel A. Spicer

KHYBER PASS: A CARAVAN ENJOYING A SHORT REST IN ITS JOURNEY FROM AFGHANISTAN TO INDIA

"It is many a weary mile from the ancient Persian city of Herat, in Afghanistan, to the Western war front as it is from the Western war front to the East Side of New York, and the men of the Four Tribes never heard of Moe Klipstick, nor of the druggist at the corner of Third avenue, yet each was related to the other in terms of world commerce" (see text, page 213).



A COOLIE BRINGING IN A LOAD OF TU-CHUNG BARK (*Eucommia ulmoides* Oliv.), A VALUED TONIC MEDICINE: YUNGYANG HSIEN, CHINA

"And even in the far places, out on the very rim of the world, strange tribesmen were to cry aloud in outlandish tongues against the invisible clutching thing which, while they wondered, took away their bread" (see text, page 216).

well. "The world had lived in former ages," he says, "very comfortably without cloves." But in the beginning of the seventeenth century that odoriferous pistil had been the cause of so many pitched battles and obstinate wars; of so much vituperation, negotiation, and intriguing, that the world's destiny seemed to have become almost dependent upon the growth of a particular gilly-flower. Out of its sweetness had grown such bitterness among nations as not torrents of blood could wash away. A commonplace condiment it seems to us now, easily to be dispensed with, and not worth purchasing at a thousand human lives or so the cargo, but it was once the great prize to be struggled for by civilized nations.

And so Venice and Alexandria punished the nations who took their spice trade away with the unholy spell of war, a curse that all through history has both preceded and followed every marked change in the trade routes of the world.

The changes in drug prices which have

A MARKET-PLACE IN THE SULTAN'S DOMINIONS

Turkish opium has long been considered the highest grade for medicinal use in the market. Before the war Turkey dominated the high-class opium trade of Europe.

come in this war are due chronologically to the blockade of Germany, in relation to the enormous chemical manufacturing industry of that country; to speculation in existing stocks at the outbreak of the war; to the congestion of transportation both by land and sea and terminal facilities in belligerent countries; to the removal of blockaded shipping from world trade, causing a shortage in sea transports; to the destruction by commerce-raiders of shipping and cargoes and the high marine insurance and freight rates; to the diversion of labor to war purposes from trades concerned with the gathering, marketing, or manufacturing of drugs and medicinal substances, and to the accumulation of stocks of drugs by army organization.

SOME PRICES COMPARED

It is interesting to compare some of the prices per pound quoted in wholesale drug trade bulletins in July, 1914, and then a year later. Bleaching powder or "chloride of lime"—used in the arts and as a disinfectant advanced from 1⅜ cents to 9 cents per pound; sal-soda or washing soda, from 60 cents to 85 cents; nitrite of soda, valuable both as a medicine and for its nitrogen, from $1.90 to $3.25; chlorate of potash, from 15 cents to 45 cents; oxalic acid, from 13 cents to 50 cents per pound; quinine, from 16 cents to 50 cents an ounce; caffeine, from $4.25 to $11.50 an ounce; epsom salts, from 1¾ cents to 3¾ cents a pound; oil of wintergreen (artificial), from 55 cents to $3.60 a pound; permanganate of potash, a disinfectant, from 14 cents to $1.50 a pound; sodium salicylate, used for rheumatism, from 65 cents to $4 a pound; thymol, a specific for hookworm, from $1.20 to $6.50 an ounce; antipyrin, from 30 cents to $3.00 an ounce; phenolthalein, used both as a chemical reagent and as a laxative medicine, from 80 cents to $48 a pound. These are chemicals, many of which came from Germany, and their advance was usually a direct result of the law of supply and demand and of speculative hoarding.

A ROSE BY ANOTHER NAME

Aspirin is a compound of salicylic acid almost universally used for all kinds of aches and pains, and until recently the patent on the drug was held by a German firm. Shortly after the outbreak of the war it began to rise spasmodically until, under its unpatented title, it caromed from 32 cents a pound to $1.25 a pound. For be it known, aspirin, of a lineage slightly different from the German article, sometimes traveled incognito as acetyl-salicylic acid, and was identical in everything save name and price.

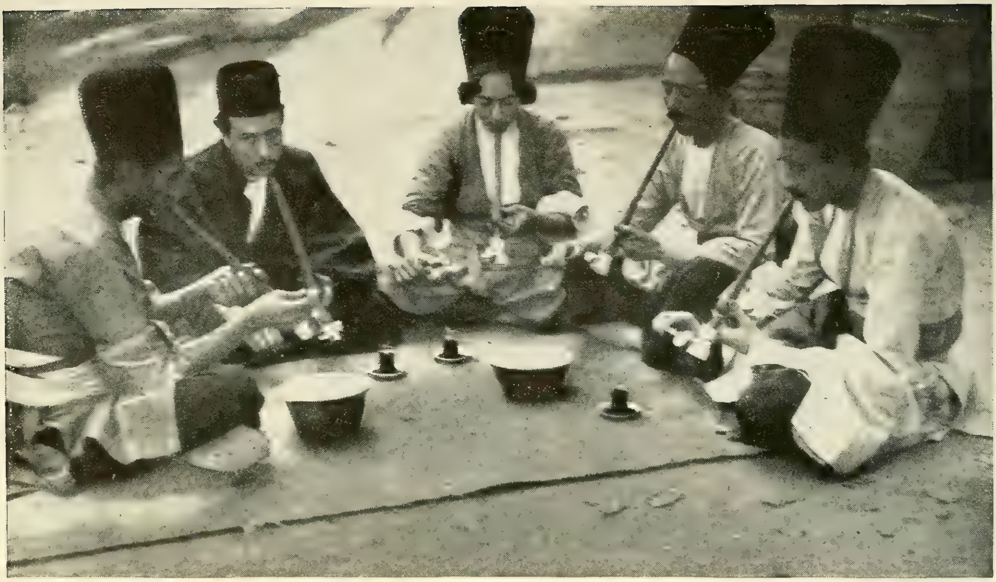
Photograph by Alfred Heinicke

A "POPPY PEEPER" COLLECTING POPPY JUICE IN THE CULTIVATION OF OPIUM: SHIRAZ, PERSIA

These trained observers look within the flowers to judge of their maturity

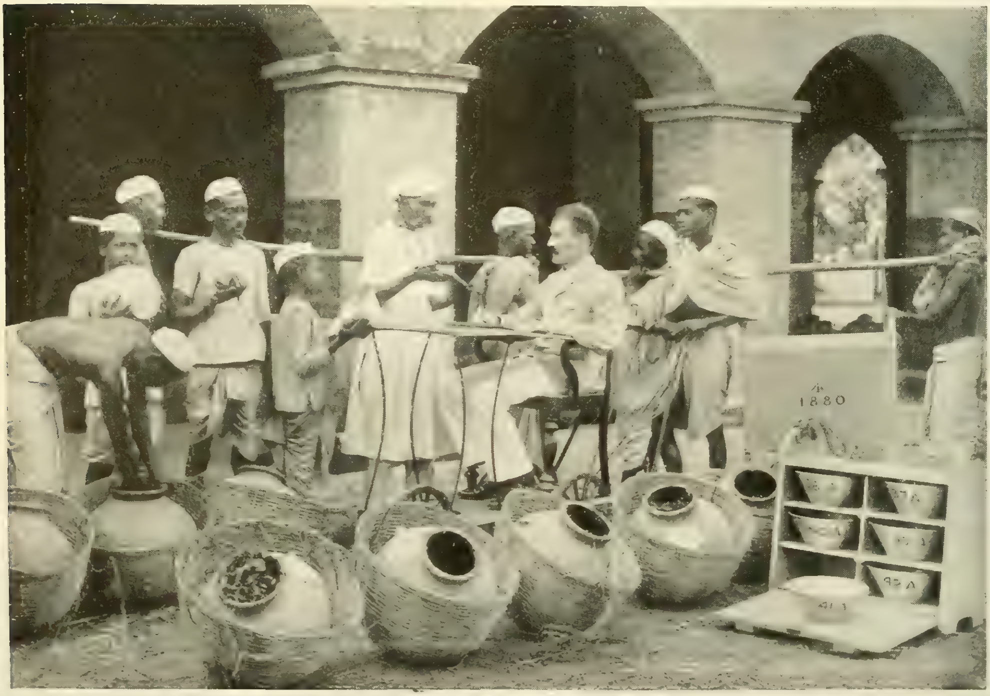
HARD ON THE BALD-HEADED

Carbolic acid is really the parent substance of these aspirin and salicylate preparations, and, as everybody knows, it is also an excellent and much-used surgical antiseptic—two good reasons why the price should gyrate when war broke out; and gyrate it did. From 25 cents a pound



Photograph by Alfred Heinicke

OPIUM SMOKERS IN A PERSIAN TEA HOUSE—OPIUM AND SWEET TEA, VERY SWEET, WITHOUT MILK, IS TAKEN DURING THE SMOKING: SHIRAZ, PERSIA



AN OPIUM EXPERT EXAMINING SAMPLES

Great shipments of opium from a thousand sources find their way to central points, where examinations by trained men decide its ultimate destination and price

Photograph by Alfred Heinicke

WEIGHING THE ONE-POUND LUMPS FOR THE FARMER: OPIUM CULTIVATION SHIRAZ, PERSIA

"Opium in February last had jumped to $19.05 a pound as compared with $8.05 in 1913 and $11.05 in 1915. . . . The tremendous use of anodyne medicine to relieve the pain of the millions of wounded has undoubtedly had a stimulating effect on the price of opium and morphine" (see text, page 234).

to $2 the pendulum oscillated. Now it is cheap once more at about 75 cents a pound, not more than 200 per cent higher than in 1914!

The war bore heavily on bald-headed and nervous people. Practically all hair tonics nowadays contain resorcin—a coal-tar product we have always allowed Germany to make for us, and another cousin to carbolic acid. From $2 to $32 rose the price of a pound of resorcin, putting a sudden damper on the enthusiasts of intensive scalp culture. And the bald found it costly to be nervous over this advance, since bromide of potassium, long used to calm excited nerves, advanced from 50 cents to several dollars, and at one time it touched $12 a pound! These excessively high prices were speculative phenomena, and did not hold at the maximum level, though bromides are still $1.20 a pound and resorcin $24 a pound.

Practically all remedies for the roundworm of children contain santonin. Santonin ballooned to dizzy heights in a few months—from $13 to $75 a pound. It is now relatively cheap at about $50 a pound. But as a pound would supply about 11,000 doses, we do not need this drug in carload lots!

ROBBING PETER TO PAY PAUL

Some chemicals have advanced more recently for indirect reasons. For instance, a rise in sulphuric acid is attributed to the fact that iron pyrites come largely from Spain, and the war has had a sinister effect upon Spanish commerce. As pyrites are used to manufacture sulphuric acid, their price and the price of the acid rose proportionately to the effectiveness of the underseas boats. The rise in copper had an indirect effect on certain phases of the chemical industry, as copper and sulphuric acid were largely used to generate sulphuretted hydrogen, a very valuable reagent in the laboratory.

© Mrs. H. P. Kimball

A SELLER OF DRUGS: CHINA

From the heart of China comes much of the opium which has stilled the mortal pains of the millions of brave men who people the hospitals and tenant the graves of the Western front in the Armageddon of civilization. Since the Turkish supply has been cut off, India and China have to furnish the bulk of the unprecedented quantities required by Allied countries.

Photograph by Ella R. Christie

HOUSES AND A NATIVE CART: NOVI URGENTSCH, RUSSIAN TURKESTAN

Colocynth, one of the most valuable cathartics in medicine, has been all but cut off by the war. It comes from a plant resembling a watermelon, which grows mainly in Arabia, Syria, Egypt, Morocco, Cape of Good Hope, Greece, and Spain. The best colocynth grows in Palestine, and is now entirely out of the market. Formerly it reached the outside world through Joppa and Trieste.

Photograph by E. H. Wilson, Arnold Arboretum

PACKING BARK IN CHINA

At one time Ceylon excelled in the cinnamon industry, but coffee largely has replaced it, thus restricting to the neighborhood of Colombo the principal cinnamon gardens; however, South China has become equally interested in the cultivation, and as a result produces much valuable bark. The cultivation of cinnamon begins with the planting of seeds in prepared soil, four or five in each hill. In five or six years the trees are ready to produce bark. The barking season begins in March and ends in June. The bark is removed and allowed to ferment and then scraped. When dried, it is exported loose or in bundles, with split bamboo bands from Canton, Hongkong, Calcutta, and Colombo.

A cheaper substitute has been evolved as a result. These indirect effects might be multiplied almost infinitely; they touch almost every phase of the development of the war.

The effect of closing many markets for products of neutral countries must also be considered. A good example in the trade is copra, or dried cocoanut kernel, from which cocoanut oil is pressed. Madras, India, a shipping center for this article, reports a decline of 51 per cent in the quantity exported in 1916. Germany and Russia were extensive users of copra; also Belgium. A decline of 27 per cent in the exports of oil of sesame and essential oils in 1916 was also noted in Madras. The use of palm oil in England in the making of artificial butter has resulted in greatly increased production and a market which will probably be permanent—showing that "it's an ill wind, etc."

"THE HIGH COST OF TWILIGHT SLUMBER"

Some of the most remarkable advances in price are seen in vegetable drugs. Russian henbane is a source of hyoscine, or scopolamine, an ingredient in the much-exploited "twilight sleep" preparation, and this drug jumped from 8 cents a pound in 1914 to $3 a pound in 1916.

Belladonna, from which atropine is made—atropine the handmaiden of the eye specialist—was cultivated for commercial purposes in Germany and England. The cutting away of the German supply caused the price to rise from 50 cents to $1.75 a pound within the first year of the war. Now England is making efforts in intensive cultivation of belladonna and other botanical drugs, and

Photograph from Dr. Inazo Nitobe

BUSY SCENES IN FORMOSA

"After the Japanese-Chinese War, Japan obtained control of the Formosa camphor industry. Although the Formosa forests are practically inexhaustible, forestry measures were instituted for the replanting and care of trees" (see text, page 236).

the Arlington drug gardens, located near Washington, D. C., conducted by the United States Department of Agriculture for the experimental cultivation of medicinal plants, have been more than a successful experiment and it did not require the war to make their utility apparent.

OPIUM AND THE BLOCKADE

It will be noted in scanning the quotations that products to which England has direct sea access have had a definite but not spectacular increase in price. Opium increased in price very gradually from $9.05 in July, 1914, for crude gum, to $35.00 per pound today. In the case of opium adequate production and well organized distribution came into play to stabilize the market. But storehouse stocks for medicinal purposes were gradually exhausted and the war shifted to opium producing countries, depleted their man power, and finally threatened the trade routes.

The ring about the Central Empires soon included Constantinople—probably the largest single exporting center for the poppy juice. Moreover, Turkish, or, as it is known, Constantinople opium, has always been considered the highest grade obtainable for medicinal use. Persian opium probably ranks next in importance, though both the Indian and the Persian products are now largely used in the manufacture of morphine. China's immense crop was, until recent times, consumed within the empire, while Egyptian opium was exported to English chemical houses to some extent. Even Bulgaria produces some opium, and it is found in most of the various ports in Asia Minor. But Turkey dominates the European supply of high-grade gum.

Now, the failure of crops, the shortage of ships, the tightening of the blockade, and the disorganization of trade arrangements is having the inevitable result. Opium in February, last, had jumped to $19.05 per pound, and today it is $35 per pound, as compared with $8.05 in 1913 and $11.05 in 1915. Only limited quantities are sold to each dealer even at this price. Heroin, or diacetyl morphine, a derivative of opium, used almost exclusively in cough medicines, sells today at $14 an ounce. The tremendous use of anodyne medicines to relieve the pain of the millions of wounded has undoubtedly had a stimulating effect on the price of opium and morphine.

Gum tragacanth — used as a source of mucilage in medicine and the arts — of which Aleppo, an ancient Syrian drug market, where Venice had warehouses in her golden days, is the trade center—is shipped through Aden or the ports of India.

The increased price in products of this type was approximately 100 per cent during the first year of the war, but it continues to rise day by day.

THE MUSCOVY COMPANY

Concerning Aleppo there is some interesting correspondence in the records of the old English Muscovy Company. Edwards, one of their factors, writing in 1566, said: "Therein are many Venetians . . . who buy gall, tallow, saffron, skins, cotton, wool . . . and also will serve us of all kinds of spices, we giving them sufficient warning to fetch it in the Indies and will deliver it to us in Shamaky."

And as there is nothing new under the sun, another factor tells about the light Russian oil which now, when it is refined, we prize so highly as a medicine: "There is a great river," he wrote, "which falleth into the Caspian Sea by a town called Bachu whereunto which is a strange thing to behold. For there issueth out of the ground a large quantity of oil, which oil they fetch from the uttermost bounds of all Persia, it serveth all the country to burn in their houses. This oil is black and is called Nyfte. There is also by the said town of Bachu another kind of oil which is *white* and *very* precious; it is supposed to be the same that is here called petroleum."

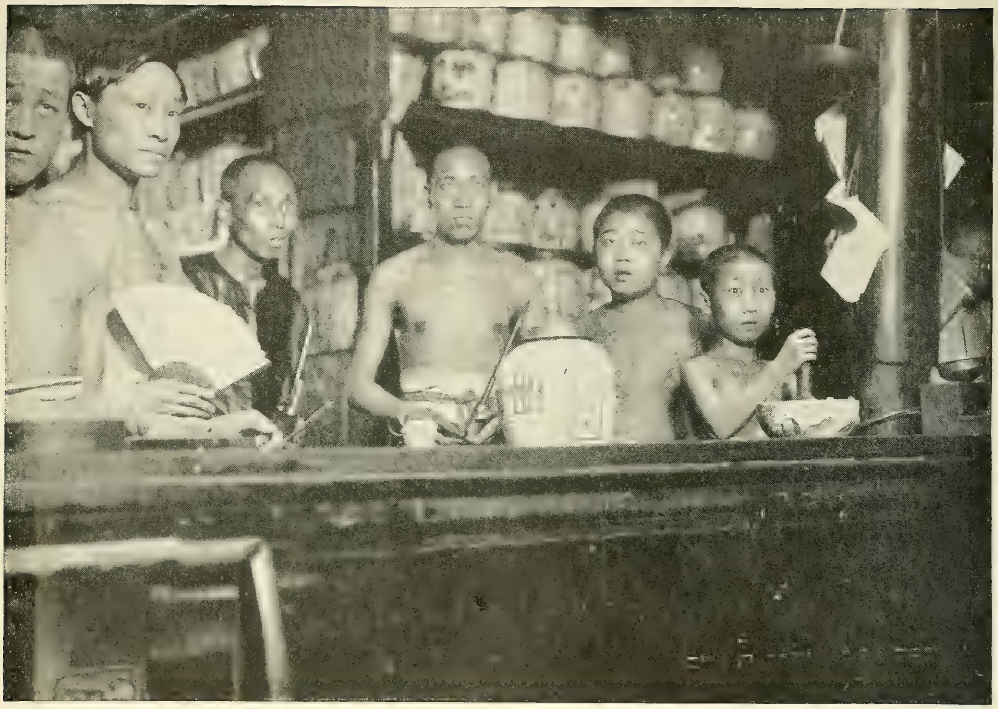
What if the ancient adventurer could have been granted a vision of the oil-burning submarine and super-dreadnaught! He would have thrown his spices to the winds. Today men are fighting for that oil as in his day they fought for cloves!

Another article of commerce which fortunately we do not use today in medicine was shipped from Alexandria. Ar-

Photograph by F. J. Koch

LOADING LIGHTERS AT ZANZIBAR

Commercial aloes comes to us in tin-lined boxes, cases, casks, tubs, monkey and goat skins from Zanzibar by way of Bombay and in small calabashes from the West Indies.



CHINESE DRUGGIST AND HIS CHEMISTS: SOOCHOW, CHINA

Although thymol occurs in the oils of horsemint, thyme and wild thyme, which are common in many parts of this country, the world goes all the way to India for its supply of this important drug, so essential in the treatment of the hook-worm disease. It is prepared from ajowan oil, a volatile product obtained from the seed of a plant that is cousin alike to celery and coriander.

thur Linton, in his scholarly monograph in the Journal of the American Pharmaceutical Association, quotes from Hakluyt a letter of a traveler of the sixteenth century who visited Cairo:

"Without the city," he wrote, "are to be seen divers pyramids among which are three marvelous great tombs. Out of them are daily digged the bodies of ancient men not rotten but all whole. And these dead bodies are the mummies which the Phisitians and Apothecaries do, against our will, make us to swallow." Dried mummy was a favorite remedy in the sixteenth century; it is something to know that patients were made to swallow it against their will!

THE CAMPHOR INDUSTRY

Camphor, which is important not only in medicine but in the arts and manufactures, was an example of efficient production and control of output. After the Japanese-Chinese War, Japan obtained control of the Formosa camphor industry. Although the Formosa forests are practically inexhaustible, forestry measures were instituted for replanting and care of trees; 2,000 police were furnished to protect workers and large refining plants were built. Workers were paid a fixed sum. The distribution of the entire product was let by contract and the right of sale awarded an English firm, the latter contracting to conduct the sale of camphor in New York, London, Hamburg, and Hongkong, and to accept from Japan a definite amount of camphor each year. The closing of the port of Hamburg has not, however, demoralized the trade. In July, 1914, American refined camphor sold at 44½ cents per pound in barrel lots. In 1916 it had advanced to 90 cents.

Tragacanth, used in making mucilage and toilet creams, advanced from $1.20 to $2.25; sesame oil from Alexandria, from 38 cents per gallon in 1914 to 65

Photograph by A. W. Cutler

THE CORNER DRUG STORE ON THE EAST SIDE, NEW YORK

cents in 1916. Aloes advanced scarcely at all in the first two years of warfare. The varieties coming from East Africa and from the West Indies are used in medicine. There are many species of aloe and the commercial product is an exudation from their leaves. So many sources are available that aloe was figuratively as well as literally a "drug in the market."

The price of Norwegian cod-liver oil is an index of submarine efficiency. In 1914 the oil sold for 60 cents a gallon; in 1916 for $5.50. Perhaps the German scarcity of animal fats has also something to do with this increase. The rise in price and scarcity of the much-used Russian mineral oil in the first year of the war will be remembered. Here, again, America has been able to utilize native products to supply the deficiency.

BATAVIA—THE ANCIENT QUEEN OF THE EAST

Batavia, as of old, is still a great export center for the spice and drug trade, as it was when it was fortified as the capital of the "Spice Islands," and was known as the "Queen of the East." In those days, when every sea voyage was a perilous undertaking, it was only natural that a warlike community should assemble in such a place. And so picturesque soldiers of fortune and adventurers from all parts of the world gathered about its canals and in its white walls, besides Dutch and Japanese, many Germans, Portuguese, French, Chinese, and Moors; for, of course, being a Dutch city, it was intersected by canals, and, being a rich community, it was fortified.

With its picturesque and adventurous population, its quaint architectural scheme, and its gleaming snow-white ramparts outstanding like a finely chiseled cameo in the glare of the tropical sun against the turquoise ocean, it was a dream city of the departed days of piracy and buccaneering. A garrison of a thousand men was there in the seventeenth century, and an equal number to guard the Dutch monopoly of the cinnamon trade in Ceylon. Today the old fortifications have crumbled; the old "city" proper is no more.

The Dutch still maintain their important position in the spice trade, but instead of sailing vessels fast steamers now ply between Batavia and Amsterdam via the Suez Canal, and Amsterdam remains a great drug exchange. New York, Hongkong, and Singapore are ports of great importance in the world's drug trade, and the London docks are loaded with odorous bags and bales of the same aromatic drugs, and ginger, and pepper, and cinnamon, and nutmegs that once came a nine-months' journey around Africa in tiny galleots, manned by half-piratical crews who braved desperate battle and shipwreck and the spotted death of scurvy to follow the lure of the sea and carry the "odor of far-fetched spices" to the trading ports of the Western World.

So, although neither Morgab, in Herat, nor Moe Klipstick, in New York, could understand the reason why, and even the druggist at the corner of Third avenue was unable to explain it, there is a direct and intimate relation between war and the corner drug store, and the price of hair tonic in New York may fluctuate with the tide of battle on the battered fields of Flanders.

A FEW GLIMPSES INTO RUSSIA

By Lieut. Zinovi Pechkoff

THE PRESIDENT of the United States, in his message delivered to both houses of Congress, in which he asked for the declaration of a state of war with Germany, said:

"Russia was known by those who knew it best to have been always in fact democratic at heart, in all the vital habits of her thought, in all the intimate relationships of her people that spoke for their natural instinct, their habitual attitude toward life.

"Autocracy that crowned the summit of her political structure, long as it had stood and terrible as was the reality of its power, was not in fact Russian in origin, in character or purpose. And now it has been shaken and the great, generous Russian people have been added in all their native majesty and might to the forces that are fighting for freedom in the world, for justice and for peace. Here is a fit partner for a league of honor."

These are great and true words expressed about my country. When I read them I was thrilled, and my heart rejoiced at the profound penetration of the President into the heart and soul of our people.

FIT PARTNER FOR HONOR LEAGUE

Russia *is* "a fit partner for a league of honor."

Russia does not seek conquest and has not perpetrated aggression. Russia has been always the defender of the small and oppressed Slav nations. Bulgaria, Servia, Roumania, and Greece all owe their independence to the help of Russia, who waged wars against the Turk that they might be free peoples. Wars that were planned by the autocracy were seldom successful and never popular.

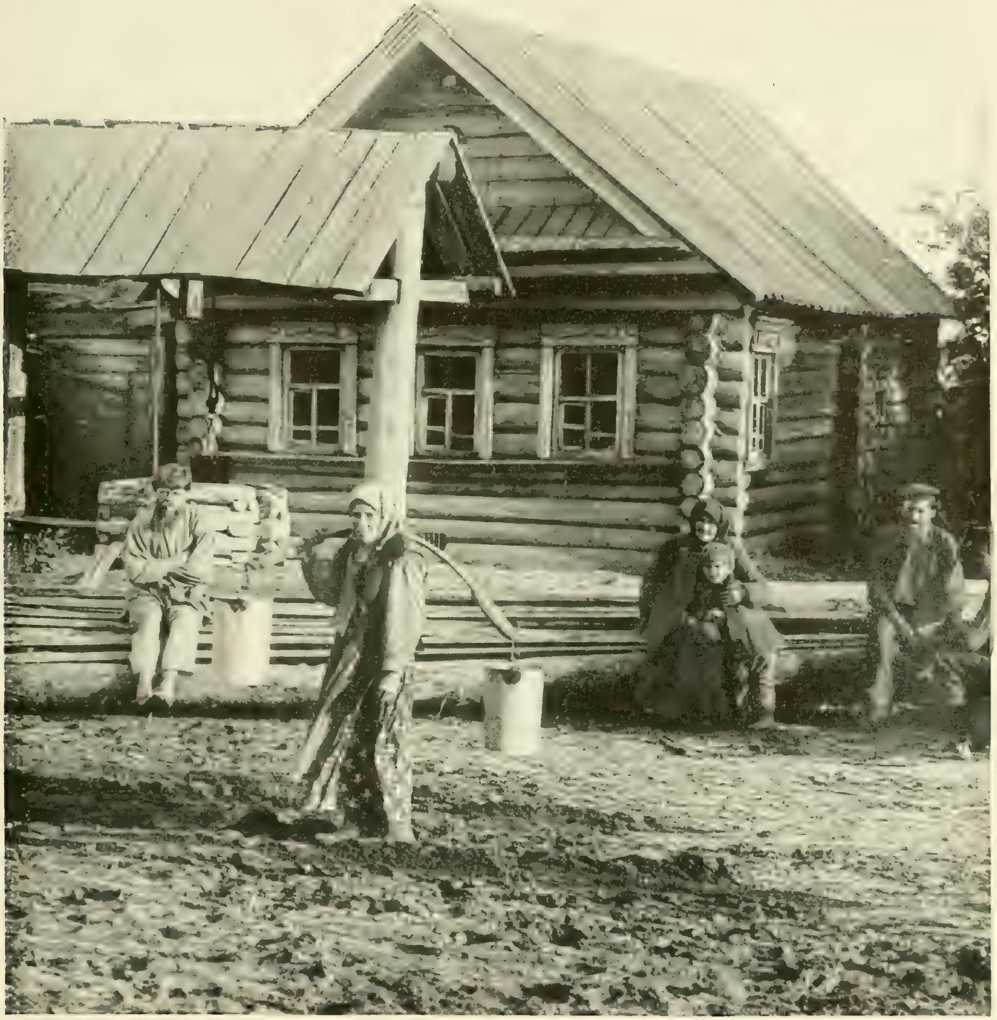
Russia always stood as one man for the defense of right and principles. The people know what it means to suffer for an ideal. Our best men and women have undergone for years and years most terrible sufferings in the prisons, in exile; and many paid with their lives.

The Russian nature is rather passive and very peaceful; but once a Russian is aroused nothing can stand in his way; he will go to the end. Russian nature is peaceful; but woe to the enemy! No sacrifice is too great for the cause of liberty.

THE RUSSIAN NATURE IS ALWAYS DEMOCRATIC

Russian nature is democratic and not aggressive, and has always been so, from the earliest part of Russian history. Our folklore, our legends, the popular poetry of the old ages of Russia, have always told of the Slav nature being extremely democratic. The popular poetry and religion of Russia are remarkable for the profound love of peace and democracy.

After the end of paganism, as before it, warlike subjects played very little part in the religious thoughts of the mass of the Russian people. Even when the pa-



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A CHARACTERISTIC COUNTRY HOUSE IN THE HEART OF RUSSIA

gan divinities of the Russian Slavs were Christianized they did not on that account lose their pacific character.

For example, let us take St. George, the type of the Warrior Saint. Of this steel-clad warrior, lance in hand, mounted on his great charger, the Russian peasant has made a useful auxiliary in his laborious life. He has given St. George the care of the village pasture.

In the spring of each year, on the 23d of April, which is St. George's Day, the peasants of all Russia lead into the fields their herds of cows, their horses, their sheep, exhausted by the long winter's stay in the *byre*. Early in the morning of this day the peasants and their womenfolk make the rounds of the sown fields, begging St. George "to rise early in the morning, to open the soil and to sprinkle dew on the clover and grass."

Then they take out their flocks and herds, which they drive with branches of willow blessed in the church, and pray to the "kindly George to guard their herds in the fields and the woods from the

THREE YOUNG LADIES OF NIZHNI NOVGOROD PHOTOGRAPHED BY THEIR OWN REQUEST

greedy wolves, the cruel bears, and every ill beast."

In the Germanic epics Thor, the patron of the toilers, is constantly overridden by Odin, the warrior. It is just the contrary in the Slav epic. The best loved and the most popular hero of the Russian "bylinas" (legends) is Ilya Mourometz, "the Peasant's Son." This is the epithet which invariably accompanies Ilya's name in all the "bylinas."

RUSSIAN HEROES AS SOIL DEFENDERS

Ilya, according to the popular tales, performed a great many exploits in the defense of the Russian soil. Having received from his father, the aged peasant, the commandment "to plot nothing against the Tatar nor to kill the Christians, and to do good and not evil," Ilya tries religiously to observe these commands and uses his strength only to struggle against evil and the enemies of his country.

He is a peasant warrior who seeks neither aggression nor conquest and who accepts battle only as a means of legitimate defense. The hero of the Russian legends is, above all, the defender of the native soil.

All through the Russian epics you see the heroes as the guardians of the people's independence, but by no means the oppressors of other people. Whenever the numerous Mongol tribes in ancient times would assail Russia, the princes of the various Russian States would call the "bogatyrs," who always personified the people, to defend the Russian soil.

They would leave their plows, their peaceful tilling of the land, gather to the prince, drive away the enemy, take no rewards, nor acquire any privileges by their defense, and afterward would not

Photograph from Boston Photo News Company

THE ST. VLADIMIR MONUMENT AND THE RIVER DNIEPER: KIEF, RUSSIA

Sixty-two feet high, cast in bronze from the design of Baron Klodt, it was erected in 1853. The relief on the lofty pedestal represents the baptism of the Russian people. Above is the figure of the saint holding a cross. In 988 St. Vladimir adopted Christianity and married Anne, sister of the Greek Emperors, Basil and Constantine, and on his return to his own country he caused his people to be baptized.

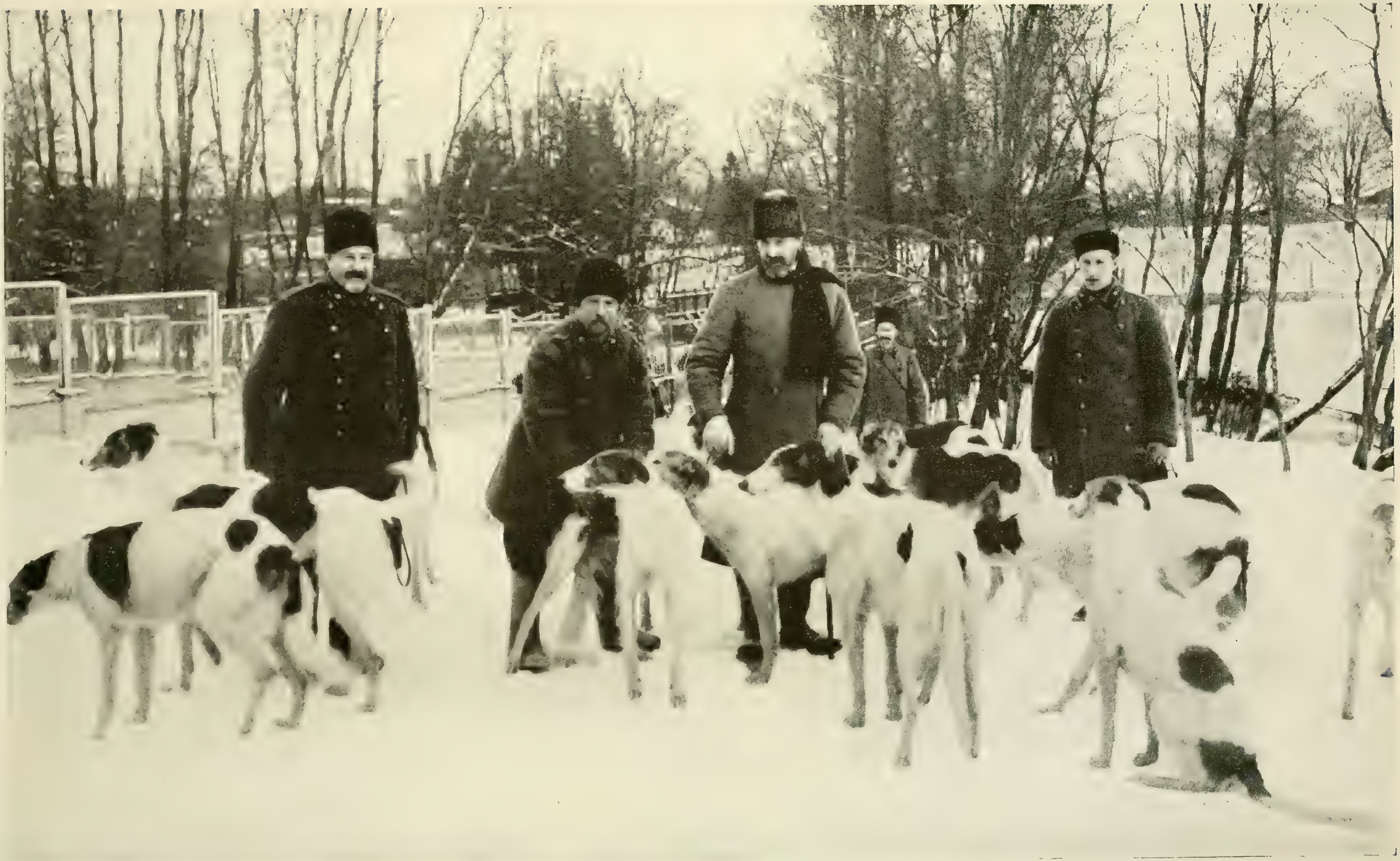
form a military caste around the prince, but would return immediately to the soil.

If one studies closely the Russian epic, he comes to the conclusion that the Russian nature, being very peaceful, always unhesitatingly, as a matter of natural duty, stands up as one man for the defense of his country and of what he thinks is right. And so it happened in this war.

A UNANIMOUS RESPONSE TO THE WAR'S CALL

From the very beginning of the present war the spirit of the Russian people, of the peasants especially (who form three-fourths of the population of Russia), was really marvelous. The rapidity with which the mobilization was carried on in Russia surprised not only the whole outside world but Russia itself. A people never responded so unanimously to a war call as they did in Russia at the time of the first mobilization.

There are times in the history of the human race when people, more by intuition than by reasoning, are able to comprehend a situation. More by intuition perhaps than by reasoning the Russian people, and particularly the peasants, understand that this war is different from other wars; that it is not only a question of mere defense of homes, towns, of wives and children, but also some great principle is at stake—a principle which means the creation of a new epoch.



ARISTOCRATS OF THE DOG WORLD

Revolutionaries may overthrow Tsarism, but in canine circles the Russian wolfhound will always be among the elect

All through our history we can see that at certain stages the mass of the population has been able to absorb ideas intuitively — ideas that perhaps have not been even clear to the most enlightened part of the country—and it was the case in the beginning of this war.

The Russian peasants, of whom everybody thinks as being ignorant and in the dark, understood the righteousness of our cause from the beginning. The activities of the peasant communities throughout Russia have proved this understanding. For example, many of the peasant communities which before the war asked for remission of taxes, being too poor to pay them, when war started would gather up their last money and come to the taxation offices in the town, there to wait upon the official and offer to pay off their taxes. When the official, surprised at such a zeal, would say:

"But no, your community is granted for three or five years remission of taxes." The peasants would shake their heads and answer: "Oh no, your honor, please accept the taxes. We want to pay them. We no more ask for the remission."

"OUR COUNTRY NEEDS HELP"

Sometimes the official, annoyed at such persistence, would order them away. They would remain in the town, sleep perhaps in the market-square, and the next day again come to the office, again bow to the official and ask him to take the taxes, and when the officials would ask them: "But why do you want to pay, if the remission is already granted?" they would say: "Oh! no, that was before the war. Now the country is in war; now the country needs money, and who would pay if the peasant does not pay?"

In many of the peasant communities they organized reading clubs for the purpose of gathering in the evenings and reading newspapers and discussing the situation. Sometimes they would have to send a man on horseback or in a wagon for 10 or 15 miles to the town to bring a newspaper. Then some young man or school boy, surrounded by all the old men and women and children of the village, would read aloud the paper, and hot discussions would take place. They knew all; they knew about Serbia; they knew about Belgium.

In one community the peasants decided to do something for the Belgians. They started to collect money and they collected a very "large" sum—29 roubles (about $14); then the community gathered at a meeting and debated as to whom this money should be sent, and they decided to send it to the King of the Belgians.

So they wrote him a letter, saying: "Dear King, Your Majesty: We, the peasants of this community, know what wrong has been done to your people. We know how they must suffer and we also know your heart is aching for your people; and so, Your Majesty, we decided to help you and your people. We send you this money; distribute it equally among your people." It is naïve; it is primitive; yet it shows the spirit of the people.

HOW THE WOMEN HELP

The women in the villages at the same time started in different ways to help those called to arms and the soldiers at the front.

The peasants possess a very good sense of organization. This has been observed all through the war. The women in the villages, for example, organize themselves into groups of seven, according to the days of the week. They work in turn to help the soldiers at the front. One woman gives up all her time one day a week, while her six neighbors do all the housework in her home for her, work in her field, and look after her children. Many similar manifestations of organization could be related.

The Russian peasant is not so ignorant as people think him to be. He is striving for education earnestly, and for the last twenty-five years, with the development of the railways, with the building up of industries in the towns where he goes to work, with the establishment of more and more schools by the "zemstvos" (county councils), the peasant has taken an increasingly important part in national life.

No one can imagine how hard it has always been for the peasant to satisfy his yearning for knowledge. Schools not being in every village, the peasant children sometimes have to walk three and more miles, in the darkness of an early winter morning, through wind and cold and snow, to school, and trudge back to their homes in the dark at nightfall.

Sometimes the village where the school was desired was so poor that the inhabitants did not have a building for the school, but formed one in a peasant's house; in one room the peasant and his family would live and in the other room would gather some thirty or forty boys and girls for their lessons.

TEACHING REGARDED A NOBLE CALLING

Our best young men and women, for the last twenty-five years, have regarded the mission of a village teacher as an apostolic mission. These young people, the best students of our universities, leave the university, sacrifice their careers, their comforts, and go into the remotest provinces in the far-away villages of Russia to bring light, knowledge, and education to the peasants so long deprived of it.

It was indeed an apostolic mission on the part of the teacher. He would be everything to the peasant; he would not only teach the children, but the peasants, men and women, would come to him for everything they needed, for all the advice that he could give them, even on domestic questions. There were communities that could not pay the teacher at all, that would collect some small sum of money only twice a year, at Christmas and at Easter, and hand it to him.

In some villages the peasants would "feed" the teacher in turn—one day the teacher had food at one house, another day at another house. But these hardships would not depress the spirit of the teacher and his faith in his mission. When he went to the village he knew what conditions he would meet.

There were other hardships: the government officials would regard the teachers in most cases as "dangerous" men. All the good work that a teacher was doing was always hindered by some petty official. Only certain books were allowed to be read to the peasant, and only certain books, permitted by the government, could be given to the peasant to read, and if it were found out that the teacher gave other books he would be imprisoned, and even exiled to Siberia.

Many and many of these young men and women during the last twenty-five years paid with their lives for their good work. I have had personal friends who paid that price.

A YEARNING FOR KNOWLEDGE

The striving for education in Russia is really very great. The majority of our students in the universities are young men whose fathers are peasants—working men, small shopkeepers. On the whole, the people could not afford to pay for education, and the students have to go through the university by earning their own living, and even in the high schools many of the students have to earn their way from the age of twelve and thirteen.

They go to school in the morning and in the afternoon work somewhere, often doing manual labor, and at night they study. They would go practically penniless to the big university cities, having had only a handful of money to pay the expenses of the journey. Many of them would live seven or nine students in one room, sleep on the floor, and go for weeks and weeks without having what we are accustomed to call a meal.

I know cases where seven students had only four pairs of shoes among them and three or four overcoats, and they would go to the university by turn—one day one would put on shoes and overcoat and another day another student—and so they would live in the winter, studying, and studying hard, and in the summer they would go to the villages and work as laborers, to gather again just enough money to take them to the university, buy some books, and continue their education.

The university life in Russia is quite different, or at least was quite different, from the Western or American university life. No games, no sport, no societies—associations were not allowed—and all social intercourse of the students was forbidden by the government. Circles of various branches of study had to gather secretly; and yet, with all these obstacles,

Photograph from Topical Press Agency

A ROLLER-CHAIR OUTING A LA RUSSE

Instead of being trundled about in rubber-wheeled rolling chairs propelled by a minion dressed in duck, the leisure folk of Russia are whirled about in chairs equipped with runners, for which an expert skater dressed in fur furnishes the motive power; and instead of the familiar boardwalk of the American seaside resort the course of this promenade is the frozen waters of the river.

every year more and more young men from the villages and small towns came in search of an education.

A LAND OF VILLAGES

Russia is a country of villages and small towns. The life of a small town is really interesting. On the surface it is very calm; yet everybody is striving toward a different life, toward a life much broader, both materially and spiritually.

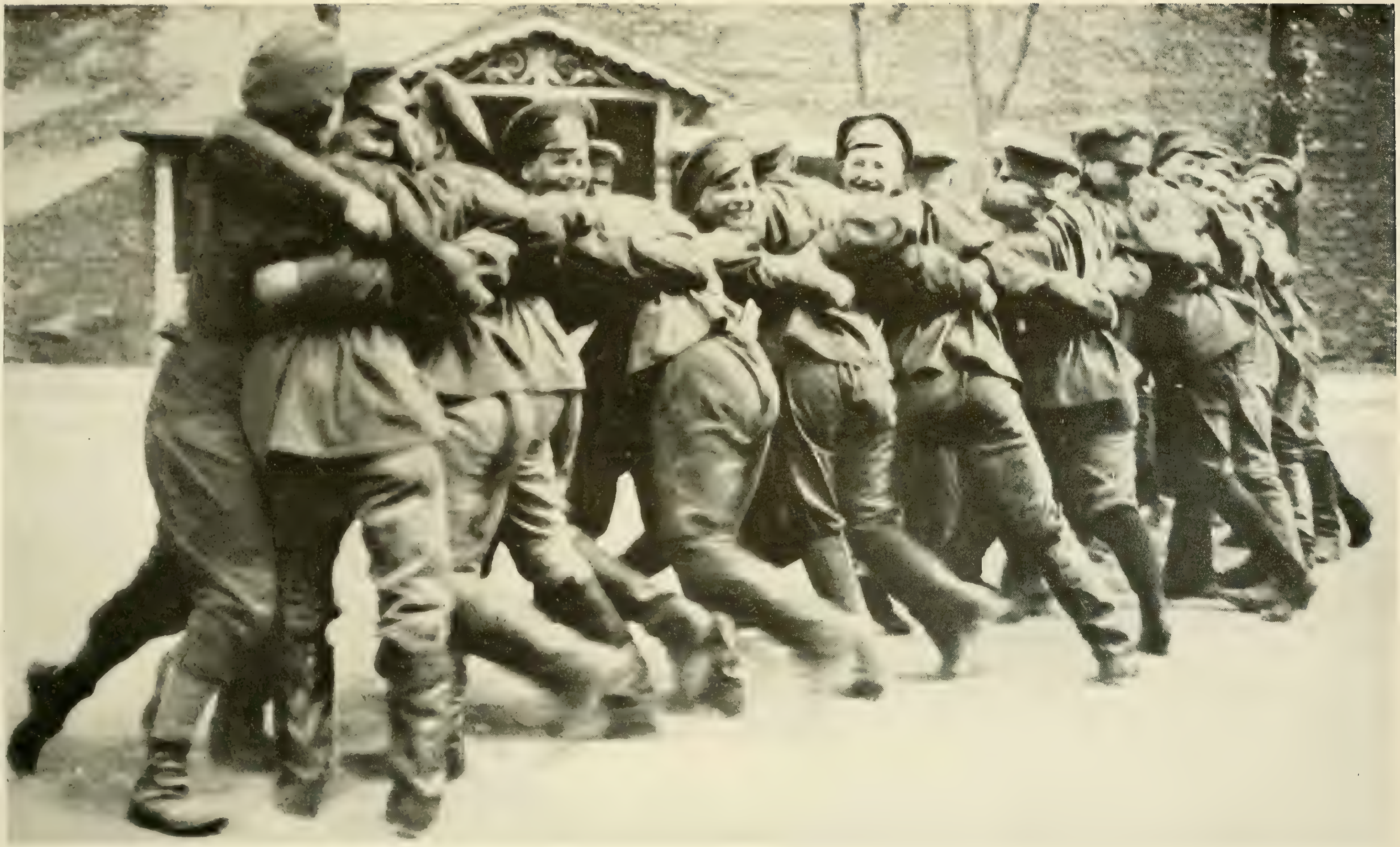
I remember one small town, about 120 miles from Nizhni Novgorod—a small town where every house was surrounded by a garden—where everything seemed calm and inactive, the streets empty; everybody just lived from day to day, quietly obeying all the rules and restrictions—orders given to them from higher up. Life seemed peaceful and that peace uninterrupted and everybody appeared content.

But that calm was only on the surface. From the first day of our arrival we began to discover quite a different condition in the town, and the character of the inhabitants became more and more disclosed to us as we lived there a few months.

One day an old priest came to the house. He said that he welcomed people of education to his neighborhood. He had heard from the men who carried our baggage from the station that we had many cases of books. Perhaps he could read the books that he had not yet read. He said there was no library in the locality and no one from whom he could borrow good books. Being a poor priest, he could not afford to buy books, or even to go to the city for them.

A PRACTICAL PRIEST

The town was situated on a river, and above the town there was a tannery. The hides were washed in this river, and the town, not having a sewage system, had to drink the same water. Of course, dis-



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ALL FIGHT AND NO PLAY MAKES JILL A POOR SOLDIER

Women of the heroic "Battalion of Death" wrestling to keep themselves fit for active service on the Eastern front. Inspired by the revolution, Russian girls of all classes have enlisted in the ranks of "The Battalion of Death." The wonderful story of their brave deeds on the Eastern front is already history. They fought on while the men of Russia retreated. These valiant women go into battle without the slightest fear of death, but they dread capture. Each carries a dose of cyanide of potassium to use in the event she is taken prisoner.

eases spread every summer. This priest decided to find a way for the people residing there to get good water. He knew the country well, having lived there all his life; he knew of small streams and brooks around the town, and he had an idea of connecting the various streams and brooks into one large stream and of finding means of establishing something like a primitive pipe-line to bring pure water to the town.

So he and his man-servant started to work. They were digging ditches and working on the scheme every day *for five years.* Then, finally, they succeeded in connecting some of these streams and rivers and establishing a pond of very clear and fine water. The priest went here and there trying to get the rich people to build pipes.

In the meantime he procured and studied books on hydraulics and was able to draw up quite an elaborate plan of sewage disposal for the town. He struggled eight years more. Nobody would listen to him. The rich were not interested because they could send their horses and have their water brought to them in barrels from a stream ten miles away. Only the poor people suffered. Finally, after persisting for *eighteen* years, this priest found means of getting a few thousand dollars and bringing water to the town.

All the children of this priest went to the city. His older son was a doctor in Petrograd; his eldest daughter studied medicine in the University of Moscow; one of his daughters was in the University of Lausanne, Switzerland, and the youngest in the high school in the town. The father had written two books on religion.

AN ERUDITE SHOEMAKER

There was another man in the town, a shoemaker, who lived in a suburb on the other side of the river. Once this man came to our house and announced that he was a shoemaker; perhaps we would have some work for him. Yes, work was given him; but he would not go away, and everybody saw that he wanted to tell something, which he either did not know how to tell or did not dare to tell.

Finally he said: "I heard you have many books." "Yes, what about it?" He said: "It is so nice to have many books." "Yes." "I am very fond of books." And after a pause he said: "Do you have books on astronomy?" We were all surprised. We asked him why particularly on astronomy, and he said: "Because that's what I am especially interested in." He was taken to the library and a popular pamphlet on astronomy was given him. He looked at it and said: "Oh, no; that is for children." Another book was given him—also a popular book. "Oh, that I have read long ago." Still another book was given to him, "The Astronomical Evenings of Klein." "Oh, yes; that's a fine book, but I have read it."

Then he was asked to be seated, and we questioned him: "But how is it that you, a shoemaker, have such an interest in astronomy, and where did you learn even to read?" He said: "Until I was seventeen I could not read or write. I had no schooling; there was no school in the village where I was born, but I always wanted to know things; and ever since I was a child I have wanted to know about the skies and the stars, and when I was small I decided that when I grew up I would begin to learn to read and to read something about the stars.

A COBBLER ASTRONOMER

"At the age of sixteen I came to this town and there was a student who had come from the city, the deacon's son. He stayed all summer, and I told him: 'You know so much and I know nothing,' and he taught me to read, and it was so nice to know how to read. It was like speaking constantly to a clever man, and I found that you can dispute with books as with living persons. I would read a book and then, nights I would dream about it, and if there was something I could not understand in the book and if something puzzled me, and if I couldn't agree with something written in the book, I would dispute the whole night in my dreams with the author, and I almost would hear him talking to me.

"I always tried to get the picture of the author of every book I read so that I might know his face, and his eyes, and see

Photograph by Elisabeth Randolph Shirley

TIFLIS: CAUCASUS

No other country has so many races and nationalities within compact dominions as Russia. Occupying more than half of Europe and nearly two-fifths of Asia, its sweep includes the cradle of the Aryan race to the lands where Oriental civilization appears to have had its birth. Slav, Lithuanian, Latin, Iranian, Armenian, Finn, Samoyed, Turko-Tartar, Tunguz, Mongols, Georgians, Yukaghirs, and Chukchis are all to be found living on native heath within the great republic's borders.

how he looked; and finally my dream to know about astronomy was realized, and the third year after I learned to read the same student, a good boy, in prison now, sent me the first books on astronomy, and since then," he said abruptly, "I have learned something. I went twice by foot to Nizhni Novgorod. I worked five years to collect money to buy a lens to construct a telescope, and I succeeded. I have it now on my roof, and I tell you it is wonderful!"

And the next week we visited this man, entered his simple log house where, in one room, he lived, with his wife and four children, and in another room were shelves of books and his shoemaking implements. In one corner of the house there were a few steps leading to a kind of primitive tower, where we saw a not less primitive telescope.

In every town where I went I always found people of that kind, not having means to educate themselves—the government not only not providing them means of education, but hindering in every way—yet they were striving, suffering, and persisting in their strivings, and working and achieving things that would seem almost impossible, under the circumstances, to achieve.

Russians in general read a great deal. They love books, and the average Russian is accustomed not only to take books from the library but to buy them for his home, to talk to his friend about the book he has just read, and always wants to share a book with some one and to discuss it, to dispute over it.

RUSSIANS LOVE TO TALK

Speaking of "discussions" or "disputes," the following is a very characteristic trait among Russians: When a man invites you to have tea with him in the afternoon, he writes you a note, saying: "Please come and have a cup of tea with me; we are going to dispute."

It has many times been observed by foreigners who come in contact with the

Russian intellectuals that they talk too much. This is true; they do talk too much. Perhaps it can be explained by the fact that for years and years they have not been allowed to act, and therefore all their energies were devoted to talking, which served as an outlet to their accumulated knowledge, so to speak. But this talking has in itself brought about very good results—that is, people were enabled to formulate more precisely their ideas about things—and when favorable time for action came then they were able to put their words in action.

Many of the foreign authors are just as well known in Russia as in their native country. It would take too long to relate all the translations, so I will confine myself, as it may interest the American people, to a few American authors who are known to the Russian people as well as to the Americans. Mark Twain is, of course, as much a Russian author as an American author. Everything that he has written has been translated into Russian and therefore has been widely read.

LONGFELLOW AND MARK TWAIN BELOVED IN RUSSIA

Longfellow is just as well known, perhaps, as Mark Twain. His poems have been translated into Russian, not in prose but in the same form as written, even the rhyme and the rhythm of the verses having been preserved.

A well-known Russian poet, Ivan Bounin, translated "The Song of Hiawatha," and if one reads a stanza in English and then in Russian, he will see that the rhyme and rhythm have not been changed by the translation, but are the same. This is true also of Edgar Allan Poe's writings. His poems were translated by another famous Russian poet, Constantine Balmont, and not only his poems but all his short stories also have been translated into Russian, and his works are very much appreciated and loved.

Walt Whitman's complete works have been translated; William Dean Howells is as well known in Russia as in America. In 1907 Jack London's complete works were translated; they appear in twelve volumes in Russian and have had a tremendous success, the edition having been repeated six times in one year. The essays of Emerson are widely read; the books of William James, especially his "Principles of Psychology," are known to every intelligent Russian.

The lives of many Presidents of the United States have been translated into Russian and their histories are familiar to the mass of the Russian people. The "Life of Washington," the "Life of Garfield," "From the Log Cabin to the White House," etc., are known by everybody in Russia who reads, and I need not add that "Uncle Tom's Cabin" is known to all Russians, not only by those who read.

In Russia books are published in editions not of one thousand or five thousand copies, but in editions of ten and twenty thousand, and if an edition is repeated, a book often has a sale of about 80,000 copies a year.

The Russian youth begins to read very early. I remember that when I was fourteen years af age we had circles for the purpose of self-education, and we studied economic questions—sociology; and when I was fifteen and sixteen we studied in our circles philosophy—Kant, Schopenhauer, Fichte, Hegel, and the French Humanists.

It sounds rather "abnormal" for "persons" of that age to be occupied with such questions, and some may have doubts as to the seriousness of our readings, but I have never felt myself so grown up and so able to understand things clearly as then. . . . . It may be that the Russian youth in those days — fifteen or twenty years ago—felt intuitively that he had a great responsibility toward his country and that upon the youth of twenty years ago would fall the great task of reorganizing his country and bringing her institutions to the level of other democratic nations.

FIFTY MILLION COÖPERATIVES

The coöperative movement in Russia was a great help to the education of the rural districts. It celebrated its jubilee in 1915, the first coöperative society having been sanctioned in 1865, during the great reforms, when the serfs were freed, and

Photograph by Walter L. Beasley

A BACK VIEW OF A RICH YAKUT GIRL'S COSTUME, SHOWING WIDE BAND OF FINE SILVER-WORK: SIBERIA

when the Zemstvos—local self-government—were introduced.

In the first forty years the progress made was slow. It is during the last ten years that the success of the coöperative societies has been specially marked, so that today the movement, with a membership of 11,299,404, has reached a position which is claimed to be far ahead of that of all the countries of western Europe.

The number of people in Russia directly touched by the movement must be between 40 to 50 millions, or about one-third of the population.

The grouping of the various coöperative societies into unions was for a long time opposed by the government—the first union having been sanctioned in 1901. But it was not until 1911 that these unions received powers to carry out their natural financial operations. In that year the Moscow Peoples' Bank was formed, with 1,327 credit societies as the shareholders. This bank has since become the most important organization for financing agricultural machinery purchases, for the sale of agricultural produce, and of the cottage and Kustarny manufactures.

Other important unions are the Ekaterinburg unions (74 societies), in the Urals, and the Siberian Union of Butter "artels" (318 artels in 1912). The turnover of this union in 1914 was 14,000,000 roubles. In other branches coöperative societies have been formed for the purchase and distribution of agricultural machinery and implements.

Attempts have also been made to organize the collection, transportation, and sale of fruit, vegetables, and eggs on a coöperative basis. In South Russia there are several coöperative flour mills, and a number of societies have been formed for the construction of country grain-elevators; the largest elevators are being provided by the government.

COÖPERATION'S GREAT INFLUENCE

The influence of the coöperative movement and of its phenomenal development is being felt in every part of Russia. That it will ultimately modify profoundly the conditions of life, the business habits of the peasantry in a progressive modern sense, is beyond question. Especially will this be so when a liberal measure of national education is introduced to emphasize and add to the moral effect which coöperation is known to exert upon those who practice its principles.

The Russian peasant, both by temperament and by habit, responds naturally to coöperative effort, and it is here that his genius finds self-expression. The present time is a unique opportunity for its spread, when the renunciation of the vodka habit is leaving the peasant with financial resources on a scale hitherto undreamed of by him.

The coöperative societies have opened many schools, not only elementary schools in the villages, but they have in many Russian towns established professional schools—agronomical schools for teaching the peasants intensive farming. They also helped to establish schools of technology, libraries, etc.

A UNIVERSITY WITH 7,000 STUDENTS

During the last fifteen or twenty years there has been a growth of so-called popular, or free, universities, with evening courses for those who work during the day. A popular university of this nature was endowed by a rich man in Moscow, Scheniavsky, about ten years ago. It started in a small building and had a limited program of study.

A few years later the affluence of those who desired to attend the university was so great that the Moscow people decided to extend the activities of the institution, and later a magnificent building was specially constructed for the purpose. Now the institution is attended by more than 7,000 students at the day and evening courses, with more and more branches being added to its course of study.

Russia has given to the world great men in every branch of human thought. In literature our folklore is one of the richest in the world. Our modern literature dates from the eighteenth century. Lomonosov by his work on the Russian language paved the way for style and composition. He was a fisherman's son, from a northern district of Kholmogory, of the province of Arkhangelsk.

His father often took him to far-off towns, and from his early boyhood he had access to books and had a great desire for knowledge which he could not satisfy in his native town, and when seventeen years of age he stole away with a caravan of peasants going to Moscow, and there he started his new life. He was a man of great learning, and the University of Moscow, in 1755, was founded under his influence. He is called the father of Russian literature.

The names of Pushkin, of Lermontov, Gogol, Turgueniev, Dostoyevsky, Gorky, and Tolstoi are known to the whole world.

From the second half of the nineteenth century Russian music has had world prominence. Glinka, Dargomijski, Tschaikovsky, Moussorgsky, Borodin, Rimsky-Korsakov, Rachmaninov, Glazunov, Stravinsky, and Skryabin are known to every lover of music in the whole world.

Our painters are not so well known to the world, but a few of them have world-wide fame, such as Repin, Serov, Vasnetzov, Vereshtchagin, and Aivazovsky.

FAMOUS RUSSIAN SCIENTISTS

In science, mathematics, the two names which stand highest are those of Lobachevskuy and Minkovsky. These two investigators illustrate the type of bold originality which marks the Russian intellect. The former was the discoverer of the new non-Euclidean geometry, which has revolutionized science. Besides these important names, among many others in the science of mathematics is that of Imsheretsky, who did work on differential equations in regions previously untouched in western Europe.

In physical science Lebedev is a physicist of the first rank to whom we owe the detection, by means of most difficult and ingenious experiments, of the minute pressure exerted by light upon a reflecting surface.

The works of Egorov on spectroscopy, the works of Umov on light—to mention but two of the names of Russian workers—show with what vigor the science of physics is being pursued.

In astronomy Russia has taken an important place ever since Peter the Great built the observatory at Petrograd. The most famous Russian men in astronomical science and research were Glasenapp and Kovalsky on double stars and Belopolsky in spectroscopic analysis.

Geographical explorations and research have been pursued actively in Russia since the seventeenth century. The Russian Imperial Geographical Society was founded in 1845, and has established

○ Underwood & Underwood

Russians, both soldiers and civilians, crowding close to a railroad car to get a peek at the members of the American Mission arriving in Moscow branches in all of the outlying parts of the Empire.

Among chemists one of the greatest names in modern times is Mendeléjeff. By the publication of his well-known periodic law of the elements he changed the whole current of thought in the chemical world.

In biological science the Russians have acquired a leading position in many branches; among zoölogists Kovalevsky's work, with that of Metchnikoff, Salensky, Korotnev, and others, find their place in every zoölogical text-book.

In physiology Russia has one of the greatest of living authorities—Pavlov—who was one of the earliest to receive the Nobel Prize.

When, a few years ago, I visited Canada I discovered in the city of Toronto two students of the university who were studying hard at the Russian language, preparing themselves to enter the Petrograd University to study under Pavlov.

In branches of philosophy and sociology the Russians have made very important contributions. In psychology the researches of Bekhterev, among others, have received wide recognition. The Russian names which stand highest in this field are Solovyev, Lavrov, and Mikhailovsky.

UNDERSTANDING OTHER NATIONS

Plechanov has a European reputation as a writer on sociology. Chuprov, Struve, and Tugan-Baranovsky are among the names familiar to every economic student; and there are others and many of them.

We know so little about one another. Even in our private, personal life we do not give much attention to our friends, and we are always rather inclined to underestimate a person than to overestimate him. We more easily find fault in others than merit, and this attitude of mind is still more true in our attitude toward other nations.

We do not come into close contact with other nations. We do not know the soul of other nations. Many people have lived in France and seemed to know France, yet when the trying days came to her, did the world know her people? They exclaimed, "But it is a new France!"

No, it is no more a new France than a new Russia. It seems new because the people did not know the natural spiritual resources that France possessed, and still less do people know about Russia; and Russia, coming into the family of free-governed nations, Russia finally being able to express openly to the world the thought of her people, will add to the security of humanity against any evil and intrigue; and a free Russia, by her development, will never become a menace to other nations, because the character of the Russian people is most pacific.

Russia is for liberty, Russia is for brotherhood, Russia is for the good of the world, and the Russian people are ready to endure in this terrible war still greater sacrifices that they, in common with our Allies and with our new great ally, the United States of America, may establish in the world righteousness, truth, and liberty.

A wonderful life confronts us. We have to be thankful to God to live in such a time where life offers for every man and woman wonderful opportunities to live and to die for a great cause.

* * *

REMOVING MUD FROM THE SECONDARY SETTLING BASINS AT THE STORAGE RESERVOIRS OF THE LEAVENWORTH WATER COMPANY

When the U. S. Public Health Service took over the sanitation of the country situated in the immediate proximity of Fort Leavenworth, they found that the city water plant, which furnished water both to the fort and the city of Leavenworth, needed overhauling. This picture shows the work of removing mud from the secondary settling basins and scrubbing the sides and bottom with water at high pressure at the storage reservoirs of the Leavenworth Water Company. The men in uniform are soldiers on guard duty from the fort and officials from the U. S. Public Health Service. The latter are supervising the operation. The fine mud in the Missouri River water is probably the most difficult to remove of all the rivers in the United States.

CONSERVING THE NATION'S MAN POWER

Disease Weakens Armies, Cripples Industry, Reduces Production. How the Government is Sanitating the Civil Zones Around Cantonment Areas. A Nation-wide Campaign for Health

By Rupert Blue

Surgeon General, U. S. Public Health Service

IN SPITE of the remarkable advances which man has made in the creation of devices for the taking of human life, in spite of the wanton man-wastage of the past three years, it has been apparent from the beginning that the vital factor in the winning of this war is man power. Therefore, hand in hand with the plans for human slaughter, operations have been put in force for human conservation.

Long before the entry of our country into the war, those who were giving thought to the matter realized that, should the United States be forced into the conflict, it would be necessary to encompass not only the fighting man with every health safeguard which modern science has devised, but, what was perhaps even more important, that it was absolutely essential to maintain at the highest state of efficiency the health of the farmer, the industrial operative, the transportation employee, and all the rest of the general public upon whom the soldier must rely for food, clothing, and weapons.

If the soldier and the sailor are to be kept well, the civilian with whom they come in contact must not be permitted to have a communicable disease, and the civil environment which the fighting man enters in search of recreation must be kept in a clean and wholesome condition.

The problem naturally divided itself into two sets of responsibilities: First, those devolving upon the strictly military authorities. This comprehended all those measures which would be exercised by medico-military and line officers, for the reduction of the health hazards of the combatant forces. Their food, drinking water, clothing, and environment, whether afloat or ashore, required careful attention; the disposal of waste, the destruction of noxious insects, the maintenance of bodily cleanliness, the sanitation of the zone over which the military exercised jurisdiction—these were the duties devolving upon the medical departments of the army and the navy.

The second set of responsibilities rested upon the shoulders of the health wardens of the general public. The U. S. Public Health Service and the health organizations of the States, the municipalities, and the counties, working in coöperation and by the utilization of all the forces at their command, had to perform a similar function for the civilian population, but over much larger areas and without the advantage of the stern authority of military discipline.

Rural communities, which for generations had employed only the most rudimentary methods of excrement disposal, had to be led into the paths of sanitary righteousness; areas whose names were a local byword for malaria had to be rendered free of mosquitoes; the water supply, sewage disposal apparatus, and scavenging systems of large cities had to be put in an efficient state.

THE PRELIMINARY SURVEY

As soon as the entry of America into the war became imminent, a plan of operation was laid before the Secretary of the Treasury, the Hon. W. G. McAdoo, the nation's health representative in the Cabinet, and received his approval. When

THE SUPERVISION OF THE SANITATION OF THE COUNTRY ROUND ABOUT FORT LEAVENWORTH INVOLVED FIGHTING A VERY SEVERE TYPHOID EPIDEMIC

Over 200 cases occurred in Leavenworth city and county during the spring and summer. One week in August 26 cases were reported in the city of Leavenworth alone. This long line of high-school boys and girls are waiting to receive their vaccination against typhoid fever. The U. S. Public Health Service undertook the free administration of vaccine to all applicants. Local physicians volunteered in the work. Over 4,000 persons were vaccinated in this way during the last week in August and the first two weeks in September.

the War Department had made available the list of places at which troops would be congregated for training, steps were immediately taken to determine the sanitary conditions existing in the zones around the cantonments.

The sanitary work which is now being carried on would have been necessary, no matter what locations were chosen for the cantonments. Unfortunately, public education in the protection of health has not become sufficiently wide-spread for the Secretaries of War and of the Navy to have chosen situations in which active sanitary work would not have been needed.

In the descriptions of insanitary conditions which follow, the reader should bear in mind that their existence is not a reflection upon those having charge of the location of the camps, but rather on our people as a whole, who still need much public health enlightenment.

CONDITIONS CRYING FOR REMEDY

This need is not confined to any one section of our country. For example, in one of the Northern cantonment areas, located in one of the richest and most thickly populated States in the Union, the report of the preliminary survey showed that the city was absolutely unprepared to house the increase in laboring population during the construction period of the cantonment. The city had no building code. When the hordes of workmen began coming into town many of the people began taking roomers, and the poorer portion of the city became overcrowded; men were quartered in lofts; in some instances there were two or three men in a bed and several beds in a room; bathing facilities were entirely lacking or inadequate; ventilation was notably absent. The jail was so overcrowded that frequently four men were placed in a single cell.

There was only one public convenience station in the city. This was so revoltingly insanitary as to disgust any decent person. As a result, extensive soil pollution of the streets and alleys took place, and it was no uncommon practice for strangers to seek admittance to private homes for the purpose of utilizing their toilet facilities. The toilets in saloons were grossly dirty; the toilets at the railroad stations were reported to be inadequate, foul-smelling, infested with flies, and horribly dirty.

Only 40 per cent of the houses in the city had sewer connections. Open privies in the vicinity of wells abounded. Garbage was placed in open boxes and old lard cans. Manure bins were generally floorless, almost always open to flies, and contained a liberal admixture of household refuse, tin cans, and kitchen garbage.

The milk ordinances were not enforced; milk for the most part was produced in insanitary dairies, and the city did not require pasteurization prior to sale. Fruit and food stands were not adequately protected from flies.

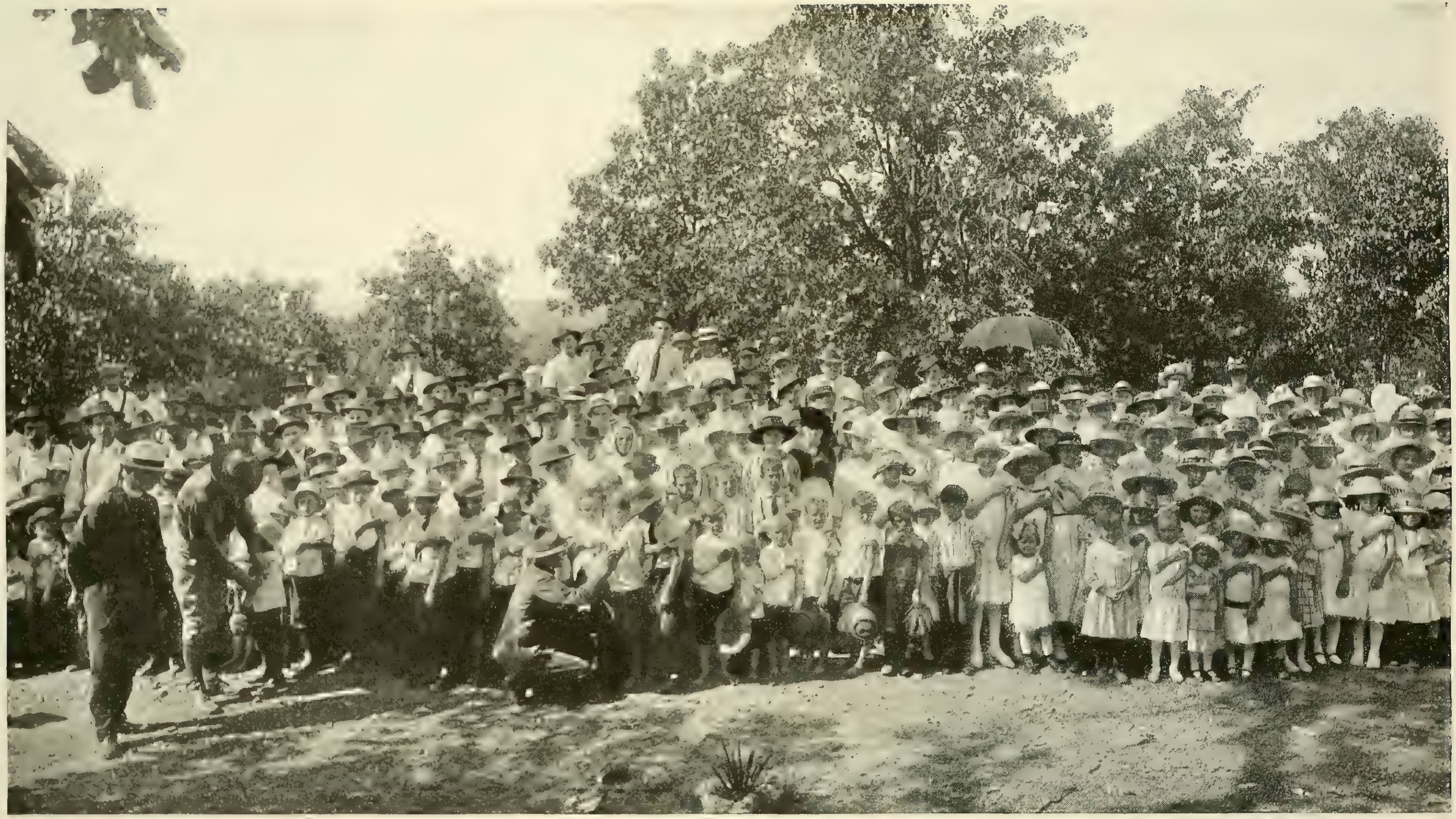
In the soda-water stands and ice-cream parlors which grew up like mushrooms just outside the cantonment there was an entire absence of screening and practically no toilet facilities. There were no means for washing glasses.

Both in the city and the rural districts surrounding it, the health administration lacked personnel and funds, and was inadequate to meet the ordinary needs of the community, let alone the extraordinary conditions produced by the presence of the cantonment.

To quote another instance: In a Southern city, located in an extra-cantonment zone, the health department consisted of a part time unsalaried city health officer and one sanitary inspector who received $85 per month. The total annual appropriation for civic health activities was $4,500, of which $3,400 was expended for teams and drivers for the removal of garbage and night soil.

TWO CARLOADS OF GARBAGE CANS NEEDED

Only 47 per cent of the population was supplied with city water. The city sewage emptied into a small creek within the corporate limits and one mile from the heart of the city. Sixty-six per cent of the population used surface privies, in the inspection of 1,200 of which, not one was found in a sanitary condition. The garbage collection was insanitary and infrequent, and garbage cans were so little used that within the first month of



A GROUP OF PERSONS NEAR MARCHE, PULASKI COUNTY, ARKANSAS, ABOUT FIVE MILES FROM CAMP PIKE, ASSEMBLED TO RECEIVE THEIR THIRD DOSE OF ANTI-TYPHOID VACCINE AND VACCINATION AGAINST SMALLPOX

Practically all of the persons shown in this photograph are Poles and do not speak English. The Catholic priest of the community, shown in the left foreground, has been of great assistance to the physicians in their work in this community, he explaining to the people the object of the work. Groups of this size assembled for vaccination are an every-day occurrence in the rural work.

A CLOSE-UP VIEW OF THE VACCINATING OPERATIONS; ALSO SHOWING ONE OF THE EIGHT CARS USED BY THE SERVICE

The priest on the front seat is recording the names of those vaccinated. Scientific Assistant R. E. Porter is standing, administering anti-typhoid vaccine. Dr. R. P. Harris, sitting at the table, is vaccinating a boy against smallpox. Note the area covered with iodine on the arms of the boys in line waiting for their typhoid vaccination.

the campaign, at this point, two carloads were sold to property-owners.

The milk supply was obtained from ten small, grossly insanitary dairies, located in the city itself or in its immediate outskirts. All the ice-cream was manufactured under dangerously insanitary conditions. There was no inspection, supervision, or regulation of the city's single abattoir. Stables were conducted in the heart of the city without restriction. Mosquito-breeding flourished. Malaria, typhoid, and dysentery were of common occurrence.

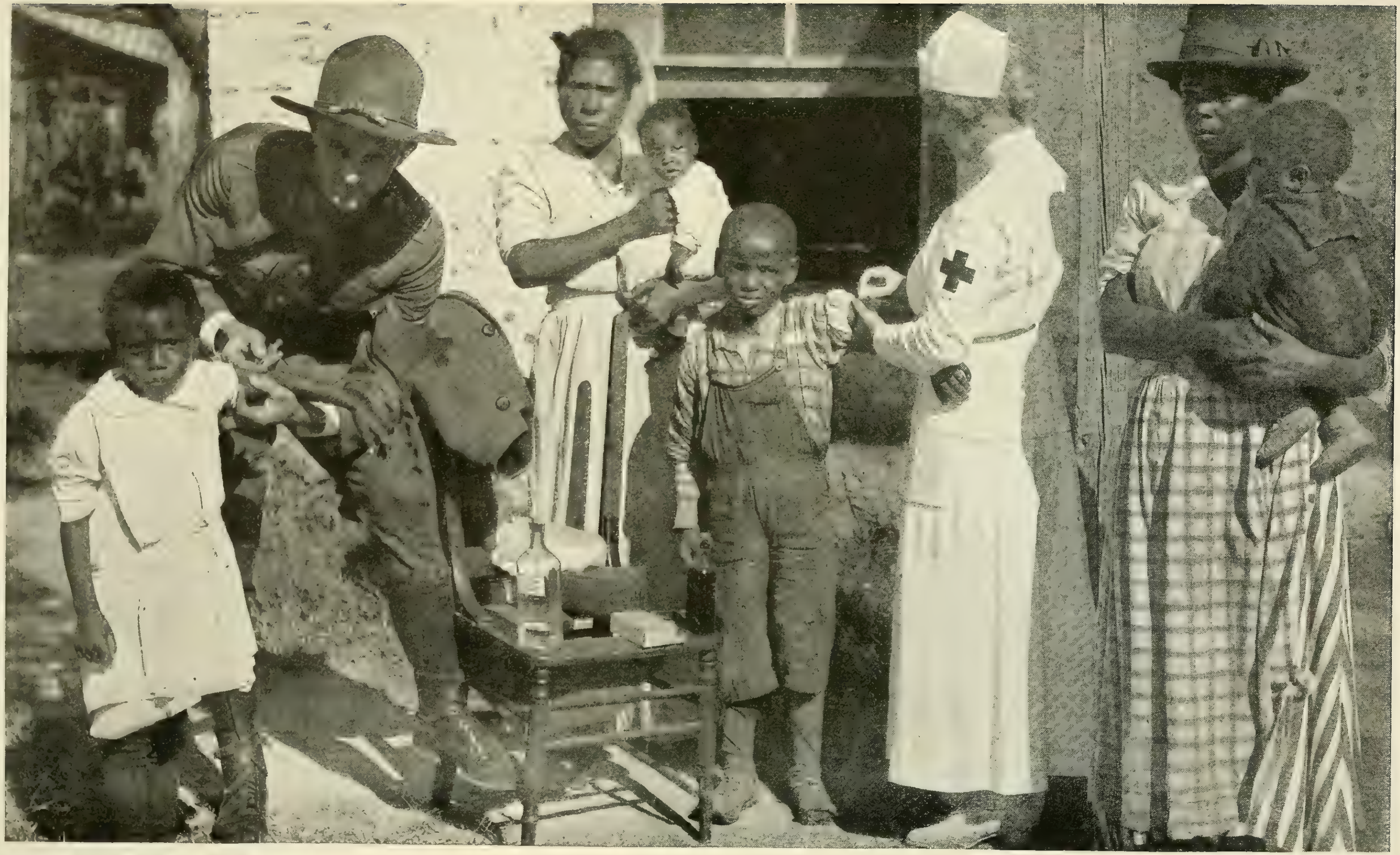
These are only two examples chosen at random. They are capable of endless repetition.

Lest the reader take alarm at the thought of troops being quartered in proximity to conditions such as are described above, it may be stated that already in these two situations there has been a marked improvement, and many of the insanitary conditions have been entirely corrected.

The first step was to make rapid preliminary surveys in each area to determine existing conditions, the additional measures and organization which would be required to exercise adequate sanitary control, and the extent to which State and local resources were available to accomplish this. For this purpose survey parties, consisting of commissioned medical officers, sanitary engineers, epidemiologists, and scientific assistants, were hastily thrown into the field.

THOUSANDS OF SQUARE MILES UNDER SANITARY SURVEY

The magnitude of this single operation may be sensed when it is realized that for the army alone there are sixteen National Army cantonments and sixteen National Guard camps, in addition to many military zones in which smaller



GIVING THE ANTI-TYPHOID INOCULATION IN A DISTRICT SURROUNDING A CANTONMENT

A case of typhoid fever is now existing in one of these families. The Public Health Service officer and Red Cross nurse are vaccinating the other members in order to limit the spread of the disease, if possible. In addition to the typhoid prophylaxis thus depicted, the house and premises have been put in a sanitary condition.

bodies of troops are to be collected, and that in each instance these surveys, of necessity, covered several hundred square miles.

When it is taken into consideration that in these locations cities having a military population of from 40,000 to 80,000 men have been rapidly created in a few weeks; that the inhabitants of these new-raised cities have been brought from every corner of the Union, and that many of them, in spite of the utmost precautions, carry in their bodies the causal agents of disease, and that existing towns near cantonments suddenly receive a large influx of artisans, laborers, and their families, and those who inevitably follow in the train of armies, it is seen that the potentialities of the sanitary situation were very grave. In the aggregate the amount of work which had to be done to meet the requirements of these conditions was stupendous.

Immediately upon the arrival of the sanitary survey party upon the scene, accurate information was obtained as to the purity of the public water supply, the efficiency of the sewage system and the scavenger service, the safety of the milk and other foods sold to the general public, the thoroughness of the prevention of communicable disease, the presence of disease-bearing insects, and the general sanitary condition of the environment in contiguity to the cantonment and those areas which troops might reasonably be expected to visit. Mosquito-breeding swamps were carefully surveyed; the engineering measures coincident to their drainage, oiling, etc., were carefully considered. In the rural districts each home was visited, the purity of the well water determined, and the efficiency of household conservancy investigated.

A study was made of the State and local health machinery at hand and the extent to which local funds were available for the purpose was noted. An estimate was made of the amount of work which would be necessary to place and maintain the area in question in a good sanitary condition. The officer in charge of the survey party made definite recommendations as to the extent to which local, State, and Federal funds should be expended for the purpose, and the number and character of the personnel necessary to accomplish the desired result.

These surveys were made in coöperation with State and local health authorities, and upon their completion, if it was believed necessary, an offer was made for the conduct of further work.

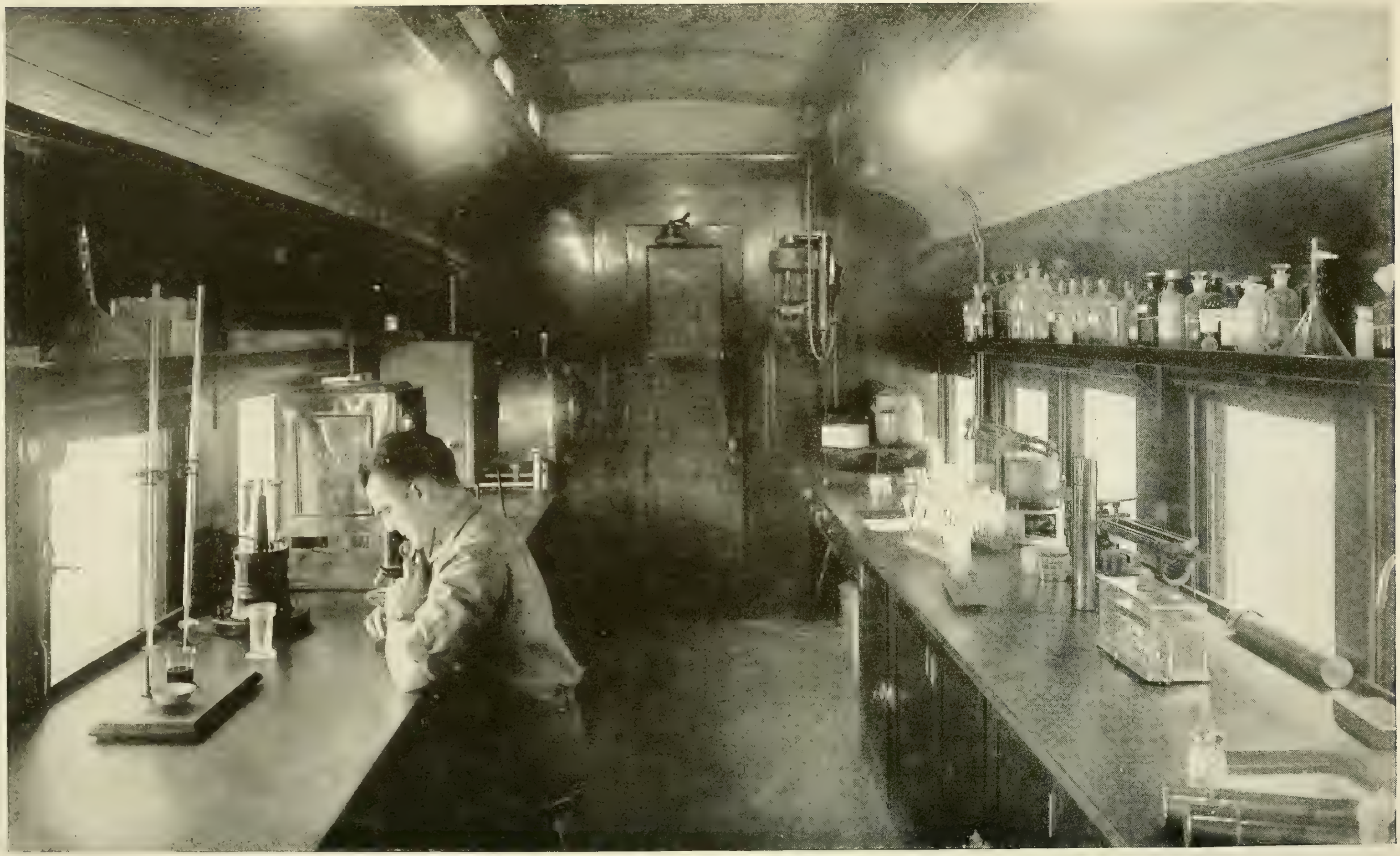
WELL EQUIPPED AND EFFICIENT STATE ORGANIZATIONS

Some of the State health departments were so well supplied with funds and have such efficient health organizations as to be able to administer the problem without assistance, and were anxious to relieve the general government of its duty in this respect. In such instances, a copy of the report of the survey was filed with them, and they continued the administration of health affairs in the extra-cantonment zone, which is visited from time to time by an officer of the Public Health Service in order to observe the progress of the work in hand, and to coöperate in an advisory capacity should it be necessary.

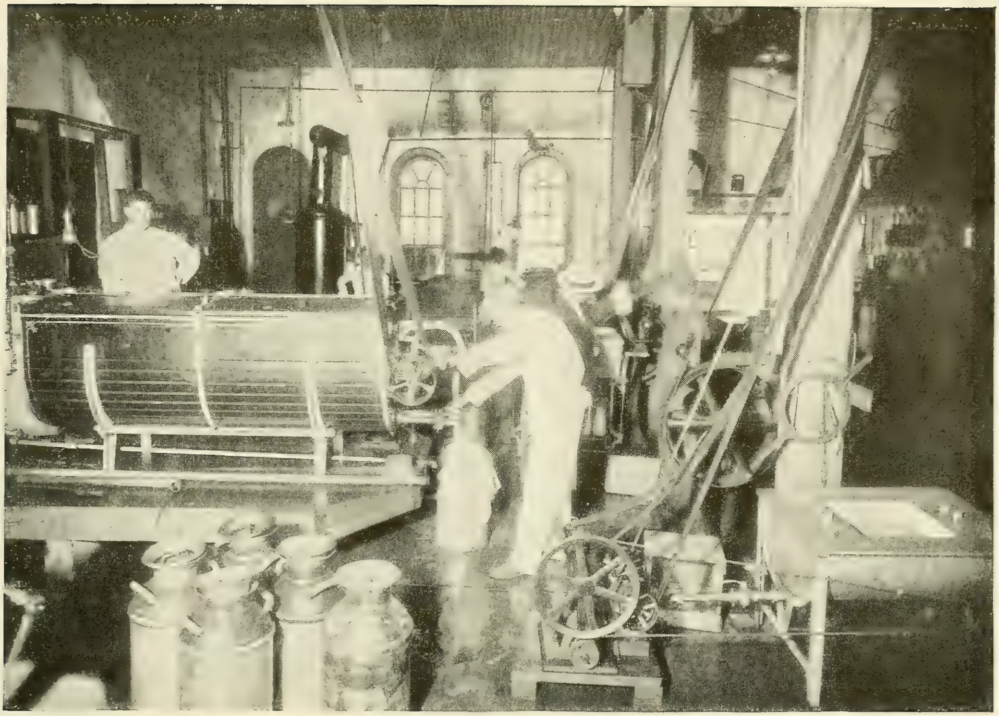
In other zones the States were able and willing to carry on the work, but desired the assistance of experts in meeting special problems. In such an instance an officer was left permanently in the zone in an advisory capacity.

In the great majority of situations, however, the health authorities felt that it was a proper function of the general government to carry on the work, that by such a plan nation-wide uniformity of action would be secured, and the financial burden borne by the country as a whole, which is responsible in large part for the necessity for added sanitary labor. In this connection it may be pointed out that practically none of the State legislatures were in session, and that they had already made appropriations which they believed adequate to meet the ordinary sanitary needs of their respective States. In such a situation the State Board of Health, no matter how efficient and highly organized, was without means of meeting the extraordinary conditions which have been created.

In these places, upon the request of the State and local authorities, an officer of



INTERIOR VIEW OF ONE OF THE LABORATORY CARS OF THE U. S. PUBLIC HEALTH SERVICE



AT LEAVENWORTH THERE WERE MANY SOURCES OF THE TYPHOID FEVER EPIDEMIC; ONE OF THE MOST POTENT OF THESE WAS THE MILK AND ICE-CREAM SUPPLIES

This picture shows the dairy inspector and an official of the U. S. Public Health Service in the act of taking a sample of cream from one of the largest ice-cream factories in the city.

the Public Health Service was detailed in charge of the extra-cantonment zone. Most of the States requesting this cooperation created in the extra-cantonment zone a civil sanitary district, and delegated to the representative of the Public Health Service sanitary police power in that area.

THE AREAS AROUND THE CAMPS UNDER PUBLIC HEALTH SERVICE CONTROL

At the time of writing this article the following National Army extra-cantonment zones have been surveyed and turned over to the administrative control of the Public Health Service: Camp Lee, Petersburg, Va.; Camp Jackson, Columbia, S. C.; Camp Gordon, Atlanta, Ga.; Camp Pike, Little Rock, Ark.; Camp Zachary Taylor, Louisville, Ky.; Camp Dodge, Des Moines, Iowa; Camp Funston, Fort Riley, Kans.; Camp Lewis, American Lake, Wash.; Camp Sherman, Chillicothe, Ohio, and Camp Travis, Fort Sam Houston, Tex. The following National Guard camps have been surveyed and turned over to the administrative control of the Public Health Service: Camp Greene, Charlotte, N. C.; Camp Wadsworth, Spartanburg, S. C.; Camp McClellan, Anniston, Ala.; Camp Sevier, Greenville, S. C.; Camp Wheeler, Macon, Ga.; Camp Sheridan, Montgomery, Ala.; Camp Shelby, Hattiesburg, Miss.; Camp McArthur, Waco, Tex.; Camp Logan, Houston, Tex.; Camp Bowie, Fort Worth, Tex.; Camp Beauregard, Alexandria, La., and Camp Hancock, Augusta, Ga.

In addition, similar arrangements have been made at Leavenworth, Kans., at which exists Fort Leavenworth, a large army post; Chattanooga, Tenn., near which Fort Oglethorpe is situated, and in Elizabeth City and Warwick counties, Virginia, lying between the York and the James rivers. The last named situation is one of great military importance, because of its relation to the army, the navy, and the large ship-building industries. It was considered very essential that extraordinary measures be taken for the health protection of this zone.

The mode of procedure and the operations which have been carried out in the vicinity of Little Rock, Ark., may be considered as fairly exemplifying all of the work, but each of the cantonment zones presents an individual problem.

WORK AROUND CAMP PIKE, LITTLE ROCK, ARKANSAS

The site selected for the National Army cantonment at Little Rock, Ark., comprises a tract of some three thousand acres, about four miles north of Little Rock, on the opposite side of the Arkansas River. The camp is situated on a plateau about 500 feet above sea-level, and approximately 200 feet above the river plane. About one-half a mile away is the city of Argenta. In addition to the area set aside for the cantonment proper, ten thousand acres to the northward of the cantonment have been designated as a training ground. The surrounding country is rolling, partly open, partly wooded; the soil consisting of surface soil, clay, and gravel, with some small boulders upon a sandstone bedrock. In places the land is low and marshy. Three civil divisions are included in the sanitary district: the city of Little Rock, the city of Argenta, and a portion of Pulaski County.

A SEVENTY SQUARE-MILE BATTLEFIELD IN A MOSQUITO WAR

The major sanitary problems in the district were the eradication of malaria and the effective control of the other communicable diseases. The former required for its accomplishment the extermination of Anopheles mosquitoes in the whole area, particular attention being paid to mosquito-breeding within the range of mosquito flight from the camp. In addition, it was necessary to supplement these measures with the control of the infected and the infectible civilian population in the district; in other words, to break the chain of malaria infection by the control of the disease-carrying insect on the one hand, and the killing of the malaria parasite in the infected human being on the other.

The territory which had to be rendered mosquito-free covered about seventy square miles, in all of which were numerous and prolific breeding places for the Anopheles. Though the country was naturally well drained by water-courses of ample fall, considerable difficulty was anticipated in the proper channeling of these streams by reason of the rocky character of their beds. The great obstacle, however, was the matter of time, since only about two months were to elapse between the beginning of the work and the occupation of the cantonment. The control of the other infectious diseases required close sanitary supervision of the entire area and its population by an efficient health organization.

Since three civil divisions were involved, the question naturally arose as to whether there should be three health bodies or one central, consolidated organization administering the entire sanitary district.

Early in June the sanitary survey was completed. The report covered the water supply, the sewage system, the public health administration, the collection of mortality and health statistics, and the prevention of the communicable diseases, not only for the cities of Little Rock and Argenta, but for the surrounding rural area in Pulaski County as well.

It was necessary to drain mosquito-breeding pools, channel water-courses, and eliminate, by filling or otherwise, many places not capable of such treatment, or, if this was not possible, to destroy the larvæ by careful oiling at least once in every seven days during the mosquito-breeding season. Every case of malarial fever had to be recognized promptly and reported, screened, and treated; and the general public, by educational measures, had to be induced to screen their houses and porches, and, where necessary, to take quinine in small doses at regular intervals.

CLEANING OUT DISEASE

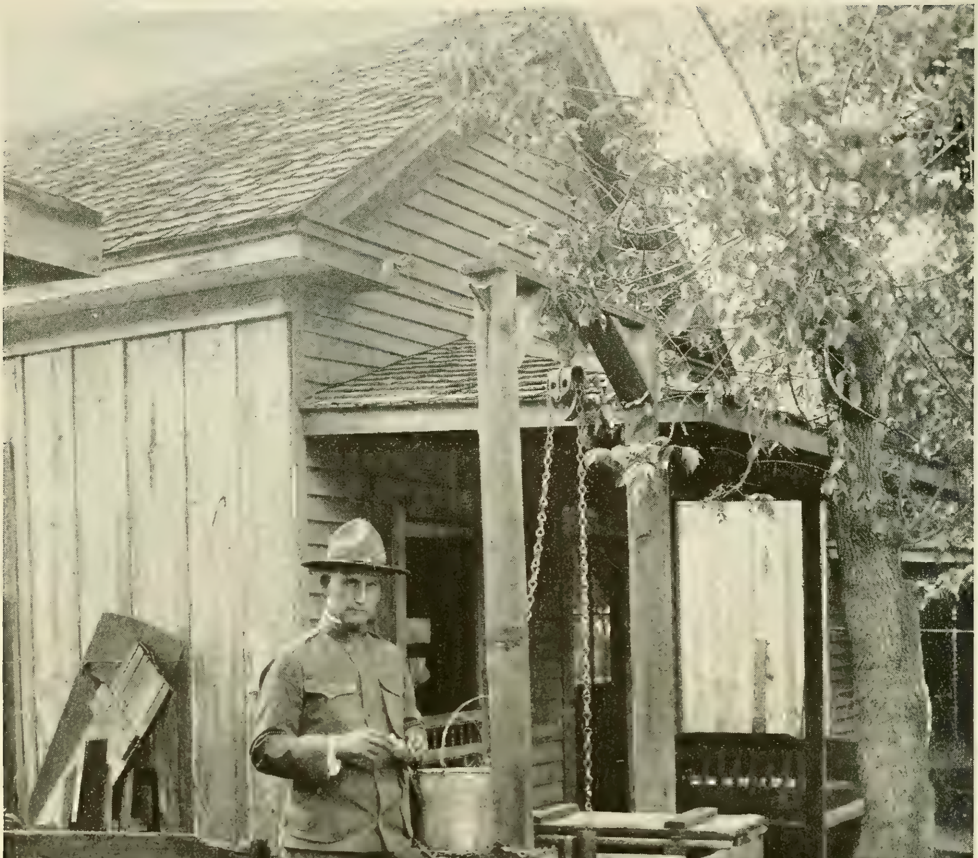
In Little Rock and Argenta the condemnation of unsafe wells and springs and the substitution of the public water supply was necessary. There were over 5,000 open, insanitary privies in the two

TALKING IT OVER

This picture shows an officer of the Public Health Service in the act of explaining to one of the residents of an extra cantonment zone the necessity of putting his premises into a sanitary condition. The art lies in making the people themselves actually want to do the work recommended. Much better results can be obtained in this way than are possible by perfunctorily ordering them to do it.

cities to be discarded and replaced by modern sanitary conveniences. Data had to be collected regarding all cases of communicable disease; adequate diagnostic laboratories to be installed, and complete epidemiological studies made in each case of reported illness. Isolation, disinfection, and the institution of prompt prophylactic measures against epidemics; the frequent inspection and rigid supervision of food supplies, especially milk, cream, and ice-cream, and of all places where food was sold; the pasteurization of the milk supply; the scoring of dairies; the careful inspection of each rural home and the education of the general public for the purpose of engaging its assistance in this mighty task—these were but a few of the activities the necessity for which was pointed out in the report.

On the 27th of June a sanitary officer of wide experience took charge of the work in an advisory capacity. The following day the local authorities made a



TAKING A SAMPLE OF WATER FROM AN INSANITARY WELL IN THE CITY LIMITS

There are 2,491 wells in the city of Little Rock, the water from which must be examined before they can be officially condemned and closed by the Board of Health. Epidemiologist J. C. Geiger, U. S. Public Health Service, is shown in this picture, with a water-sample bottle, ready to collect water for bacteriological examination. The two small cylinders in the right foreground on top of the well curb are the metallic cases for the water-sample bottle.

formal request that the Surgeon General of the U. S. Public Health Service establish administrative jurisdiction over all the sanitary work in the extra-cantonment zone surrounding Camp Pike. The Governor, the State health officer, the mayor of Little Rock, the mayor of Argenta, the county judge, and the Little Rock Board of Commerce sent individual requests for this service.

PATRIOTIC STATE OFFICIALS

It speaks well for the intelligence of this community that in a time of national stress it should so willingly and logically lay aside all questions of State sovereignty and local control, and place the burden of responsibility where it belongs—upon the shoulders of the general government.

That they were not actuated by an inability or unwillingness to expend local funds will be shown in a moment. The city of Little Rock immediately pledged $3,000 for beginning work within its jurisdiction, and a few days later, feeling that its contribution was insufficient, raised the sum to $22,000. The Little Rock Chamber of Commerce, actuated by a fine sense of its responsibility to the community, voted $50,000 for the prosecution of sanitary work, and in announcing this allotment of funds stated: "This organization wants to go on record as being heartily in accord, and will lend its financial support, in making this campaign a success, and we hereby tender our coöperation along these lines."

The city of Argenta, a town of about 16,000 inhabitants, not to be outdone, appropriated $3,000 for the first six months' work. The way in which the officials of the community recognized their duty is reflected in a letter from the Hon. Lee Miles, the county judge: "I am sorry that I have been in no position to give you some definite information. I have absolutely no appropriation out of which this money can be paid and have no money at all; . . . but I am going to raise the money some way to put up the county's part." The county appropriated $1,500.

On July 29 the Public Health Service assumed administrative charge of the zone and immediately began active operations. Coöperative arrangements were made with the sanitary officer of the cantonment proper, a large force of laborers was employed, a circular letter was mailed to every physician in the county requesting his coöperation, and in a few days the work was in full swing.

GETTING THE WORK UNDER FULL SWING

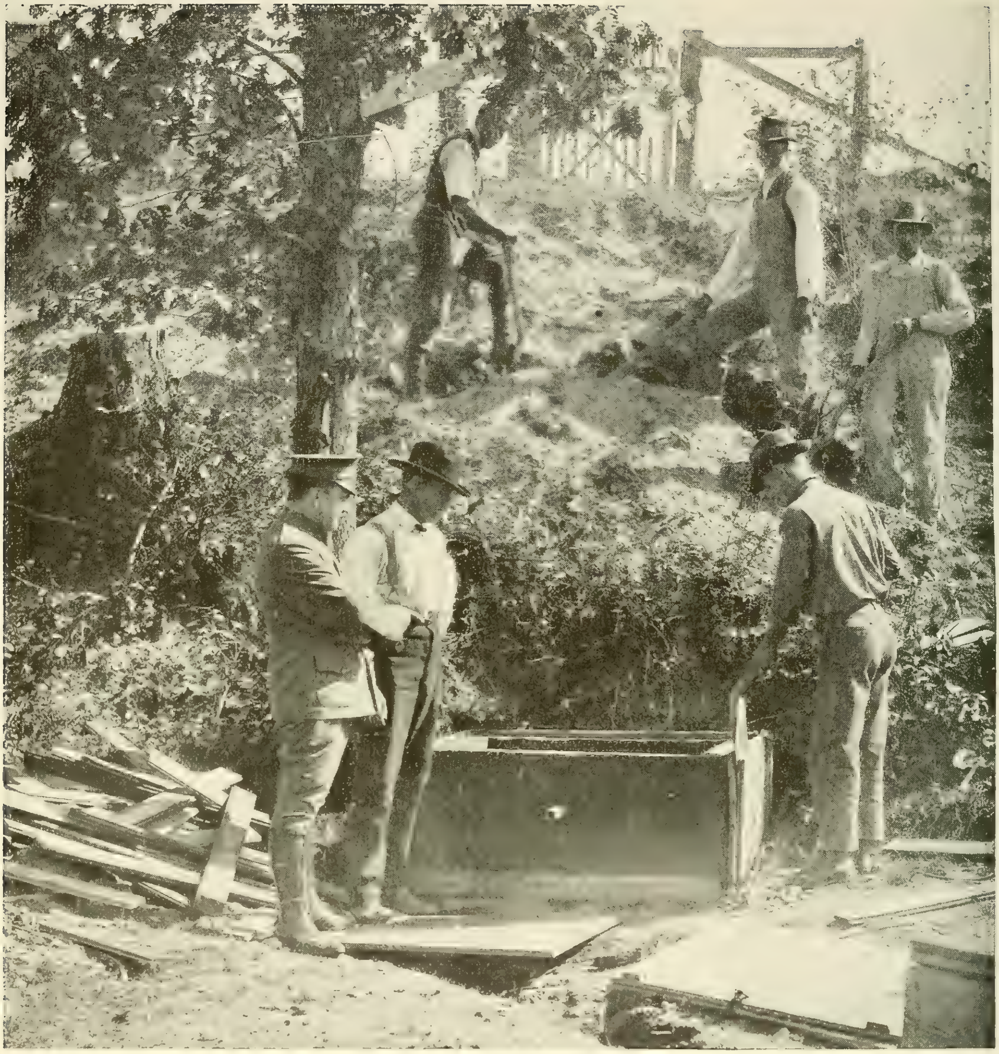
It was realized that in order that it might achieve the highest success, the project required the hearty and intelligent approval of the general public. The newspapers of Little Rock were enlisted in the cause; public addresses were delivered to the Rotary Club, the Little Rock City Council, the Argenta City Council, the Lions' Club, the Negro Chautauqua, and at the moving-picture houses throughout both cities. An exhibit was placed in a large department store on the busiest corner, showing in large models the adult and the larval forms of the mosquito.

Twenty thousand circulars of sanitary advice were printed, and one hung in every house in Pulaski County. The rental agents were asked to coöperate, and 10,000 small circulars were printed to be handed out with rent receipts and sent as inclosures with the regular mail. Free vaccination against smallpox, typhoid, and paratyphoid fever was offered to the general public.

All milk producers living in the vicinity of Little Rock were called to a meeting of the Board of Commerce. They were impressed with the urgent necessity for the proper sanitation of their dairies and the vaccination of their employees against smallpox and typhoid fever. This they agreed to do. It being discovered that the area around Carlisle, Ark., was shipping milk into the zone, a similar meeting was held there, with similar results.

A SMALLPOX EPIDEMIC STRANGLED

The erection of the cantonment caused large numbers of camps for laborers to spring up in the zone. These were inspected at regular intervals and instructions given regarding the sanitary precautions to be observed. Many of the laborers and camp followers were vacci-



PROTECTING A SPRING

In this picture are shown the methods used by the Public Health Service in preventing the water in a spring from becoming polluted by surface drainage. A concrete box has been built around the spring and the wooden forms for holding the concrete are just being removed. The concrete box will be provided with a water-tight cover. The laborers on the hill above are digging a ditch to pass surface drainage around the spring.

nated against smallpox. This was made immediately necessary by the appearance of two cases of that disease in the neighborhood of the cantonment. Large numbers of small stands for the sale of food and soft drinks were hastily put up. These were inspected, and all which were being operated in a manner dangerous to health were required to comply with sanitary regulations or cease business. The ditching and draining of the area was rapidly pushed until in many instances only a small series of pools extending to the headwaters remained. These were oiled until their contents evaporated. In other places this was not practicable and top minnows for the destruction of larvæ were planted.

Every premises in the rural district was carefully surveyed, and in each case thorough instructions were given regarding the installation of sanitary devices for human excreta. On these visits antityphoid vaccine was carried along in a small ice-box and all persons interviewed were urged to accept free vaccination against typhoid fever. Samples were taken of the water supplies. These were subsequently examined bacteriologically, and if found to be unsafe for human consumption, the well was placarded and the owner instructed as to the manner of putting it in sanitary condition.

HOUSE-TO-HOUSE VISITATIONS

A week after the first visit the officer returned to observe what improvement had been made and to give expert advice regarding the necessary changes. At this time the second dose of anti-typhoid vaccine was given. This visit was repeated for the same purpose at the end of three weeks. The following report of the rural survey work done in Pulaski County for the week ending September 15, 1917, will give some idea of the amount of work which is being accomplished:

	Week	Total since work began
Number homes visited	265	1,405
Number public addresses	12	14
Number cards distributed	100	100
Individuals vaccinated against smallpox	442	1,810
Individuals vaccinated against typhoid	3,087	7,965
Blood specimens for malaria	54	108
Number of certificates of vaccination	337	667
Agreements signed	152	152

In the city a similar campaign was going on. Every home within the corporate limits was visited and careful records made of the condition of the premises. The yard, the cistern, the outhouses, the well, the breeding places for mosquitoes—all these received careful attention. Additional sanitary ordinances were enacted by the city council, and every means was taken to abate insanitary nuisances.

The following is a table of notices served during the month of August:

Notices Served in Little Rock During August

To fill wells	2,485
To install fly-proof privies	1,289
To install automatic flush closets connected with sewer and city water and remove privy	1,974
To close cistern	96
To install fly-proof container for manure	756
Miscellaneous notices served	297
Total	6,797

THE ACME OF PUBLIC SPIRIT

Not one person on whom these notices were served refused to comply. Four hundred and ninety-two returned their cards with the statement that the work was already started; 287 returned their cards with a request for further instructions.

The control of the milk supply was a work of considerable magnitude. The extra-cantonment area in question was supplied by 312 separate dairy farms, distributed over a zone having a radius of about 25 miles.

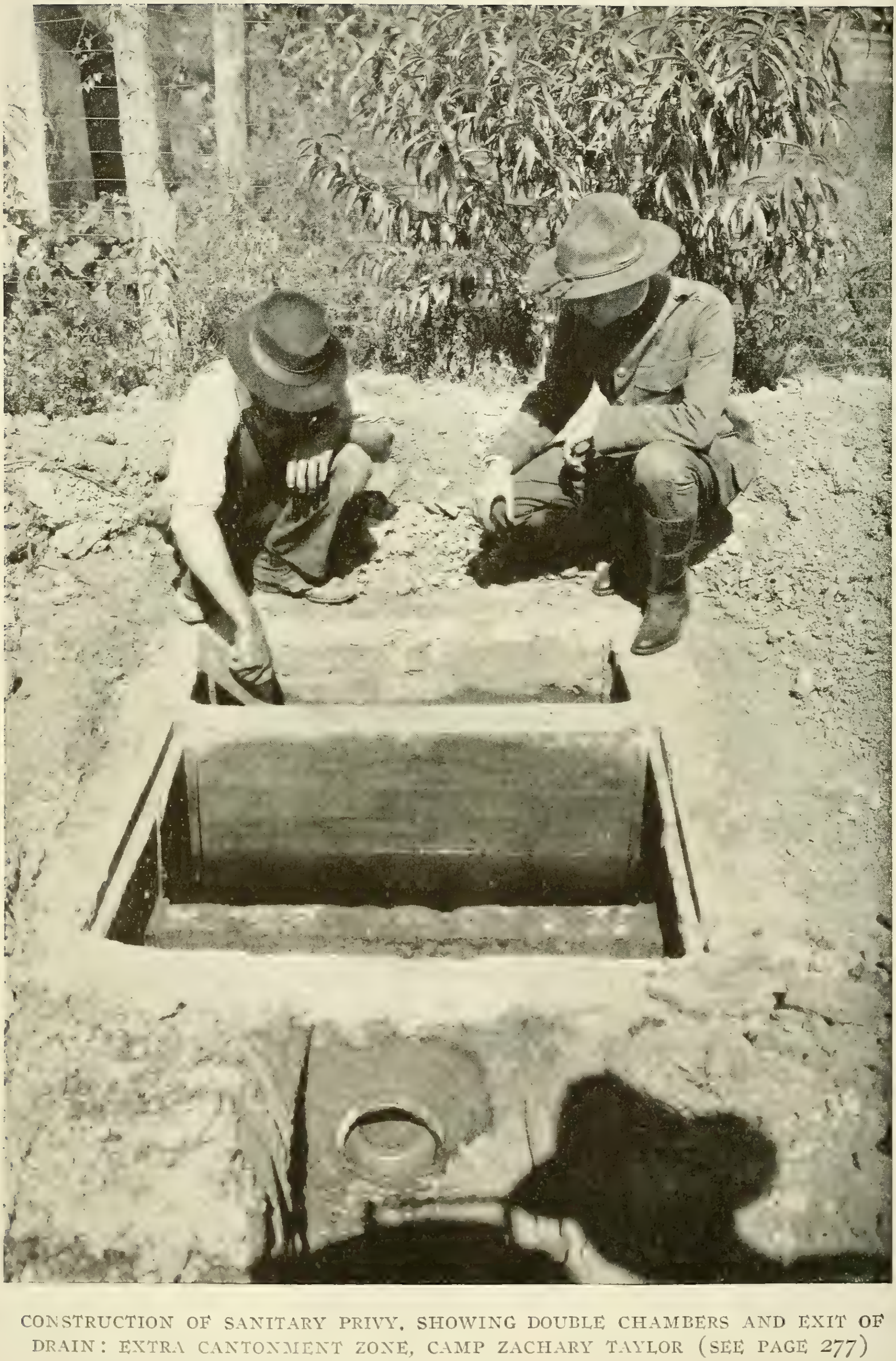
Upon the request of the Secretary of the Treasury, the Secretary of Agriculture detailed an expert from the Market Milk Investigation Section of the Dairy Division of the Bureau of Animal Industry to coöperate in the inspection of the dairies. The value of this assistance can scarcely be overestimated, and has already resulted in a marked improvement in the milk supply.

Mention has been made of the vaccination of dairy employees. On September 1, 683 of these had completed anti-typhoid vaccination; 176 had had two doses and 89 had had only the first dose; 587 had been vaccinated against smallpox.

Argenta is also rapidly approaching the sanitary ideal. During the month of August complete inspections and reinspections were made throughout the city and 1,230 notices were served to connect with sewers and city water. It should be remarked that in the case of trust companies and large owners of property one notice in many instances covered four or five premises. Other notices served were as follows:

To install fly-proof privies	338
To install fly-proof manure bins	384
To abolish water containers	430
To repair wells and pumps	215
To fill wells	122
To remove garbage and rubbish	232

Of the 2,967 notices served during the month of August, the majority have already been obeyed. Four hundred and fifty school children have been vaccinated against smallpox. Eighteen soda-water fountains, 8 barber shops, 2 miscellaneous food industries, 19 groceries and meat markets, 3 bakeries, confectioneries, and



CONSTRUCTION OF SANITARY PRIVY, SHOWING DOUBLE CHAMBERS AND EXIT OF DRAIN: EXTRA CANTONMENT ZONE, CAMP ZACHARY TAYLOR (SEE PAGE 277) ice-cream factories, and 18 hotels and restaurants were inspected.

FINANCING THE WORK

It soon became evident that the funds at hand were entirely inadequate to meet the situation. Seventy-six thousand five hundred dollars was secured from local sources; the Public Health Service added $30,000. But even the $106,500 thus secured could not meet the demand for rapid, wide-spread, continuous effort. At this time the American National Red Cross, which under the terms of its federal charter is authorized to conduct sanitary operations in time of pestilence, feeling that it was its duty to assist as an emergency measure in the operations which had as their ultimate object the protection of the health of troops, came forward with an offer of assistance.

A bureau of sanitary service was created, with headquarters at Washington, and an officer of the Public Health Service placed in charge. Upon the recommendation of the Surgeon General an allotment of $6,800 was made for the extra-cantonment zone at Little Rock.

The method of procedure is for the Red Cross to form a sanitary unit, of which the Public Health Service officer in charge of the zone is the director. A local financier is chosen as the business manager, and a chief sanitary inspector, assistant inspectors, public health nurses, bacteriologists, and clerks are appointed by the director of the Red Cross bureau of sanitary service. Foremen and laborers are employed locally by the director of the unit.

Parenthetically, it may be stated that sanitary units have been formed at all of the places in which the Public Health Service is conducting extra-cantonment sanitary operations.

DAILY HEALTH BULLETINS

In order to attack an enemy, it is necessary to know where that enemy is. One of the functions of the Public Health Service is to collect data relating to the prevalence of communicable disease, in order that sanitarians throughout the United States may know what diseases to guard against. These reports are received daily from all parts of the United States, and, in addition, American consuls throughout the world keep the Public Health Service informed as to the sanitary conditions prevailing at the points at which they are stationed. This latter information is used in the operation of the maritime quarantines. Once a week this material is published in the Public Health Reports, and thus made available for immediate use.

As soon as war was declared an arrangement was made with the Surgeon General of the Army and the Surgeon General of the Navy whereby they were forwarded daily a complete résumé of the reports received by the Public Health Service. It soon became evident, however, that in the administration of the extra-cantonment zones it was necessary to establish a series of model sickness registration areas, so that prompt and effective steps might be taken to stamp out disease among the civilian population before it had had opportunity to spread to troops or to gain a foothold in the extra-cantonment community.

Each officer in charge was, therefore, instructed to make all necessary arrangements with the physicians within his zone, to report immediately all cases of certain communicable diseases occurring in their practice. Card forms and franked envelopes were supplied them for forwarding this information. A similar arrangement was made with the undertakers to check up those cases which died without medical attendance or in which a report had not been made. A reciprocal daily interchange of information regarding the occurrence of communicable diseases in the cantonment and in the extra-cantonment zone was arranged with the sanitary officer in charge of the camp. The information received of disease occurrence among troops is regarded as confidential and is used only as a means of checking up diseases in the surrounding area.

All of the data collected in this way is summarized in a morning report and forwarded to the Public Health Service Bureau in Washington. Here it is carefully spotted on maps and collected into one daily report, copies of which are for-

RECENTLY GRADED DITCH: ANTI-MOSQUITO WORK IN THE EXTRA CANTONMENT ZONE, CAMP ZACHARY TAYLOR

One of the major sanitary problems in the camp districts has been the eradication of the malaria-bearing Anopheles mosquito within the range of mosquito flight from the camps. In addition, it has been necessary to supplement these measures with the control of the infected and the infectible civilian population.

warded to the medical departments of the army and the navy.

THE HEALTH CAVALRY MOVES

The value of this service cannot be overstated. It was reported, for example, that an epidemic of typhoid fever had broken out at a city from which 100 drafted men were about to depart to a cantonment in a neighboring State. There were about 15 new cases each day, and two cases occurred among the drafted men.

Immediately the laboratory car "Wyman," with its full complement of officers and men, was dispatched to that point. All water, supplies, ice-cream, and milk were carefully investigated. The source of the epidemic from a leaky storage reservoir was discovered, a chlorination plant was installed while repairs were being made, and the outbreak promptly snuffed out. In the meantime, the Surgeon General of the Army ordered the drafted men held until their vaccination against typhoid should have been completed. During this period it was possible to discover other infected individuals. Thus, not only were measures taken for the prevention of the introduction of typhoid fever into a cantonment, but, what is perhaps even more important, infected individuals were prevented from traveling interstate and spreading the disease among civilian communities.

In July, a typhoid fever epidemic broke out in the immediate vicinity of an army post at which some 12,000 soldiers were stationed. A survey developed the fact that the sewage disposal system in the civil community was very primitive and the water supply extremely insanitary. There was no local health code; the milk supply was uncontrolled and the scavenging system extremely bad.

Operations were immediately begun. The bad conditions obtaining at the pumping station, settling basins, and reservoirs were corrected; plans were put in force for the extension of the sewer and water mains; the food depots were put in a sanitary condition; the dairies were inspected; epidemiological investigations were made of the cases of typhoid fevor; over 4,000 people were vaccinated against the disease in the first week of operations; the medical inspection of school children was instituted, and the entire community placed upon a sanitary basis which it never knew before and which it will probably never forget.

AN ICE-CREAM PARLOR BECOMES A TYPHOID DISPENSARY

At another place, which is visited weekly by several thousand officers and enlisted men of the army, there was an explosive outbreak of typhoid fever. The death rate was high. The bulk of the cases were traced to a single ice-cream factory. Several occurred among persons who had been vaccinated against typhoid fever.

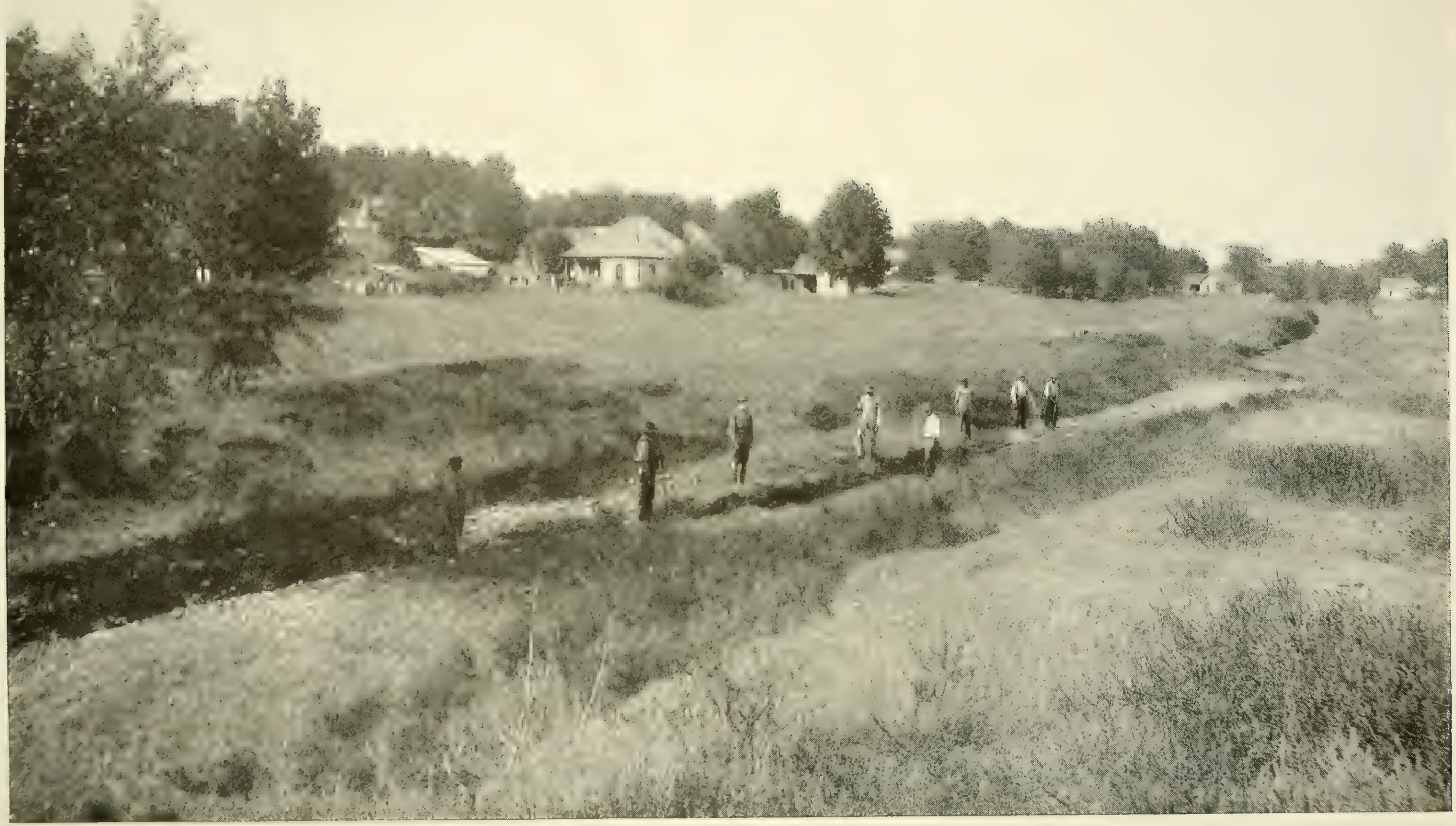
This simply meant that while these individuals were protected against the dose of typhoid bacilli which they would ordinarily receive from infected water, in this instance the dose in the ice-cream was so massive as to break down entirely the immunity which had been artificially created by the vaccination. The epidemic was immediately checked, but a campaign for better health is still being intensively waged in this zone.

The movement of large numbers of people, which was inevitably coincident to the erection and occupation of the cantonments, necessitated extraordinary precautions lest there be a spread of infectious disease through the medium of railroad trains.

On the 1st of August a letter was addressed to every railroad president in the United States, urging upon him the necessity for supplying adequate and sanitary toilet accommodations for the traveling public in the railroad stations in and around cantonments. The file of the replies received is a remarkable exposition of the genuine interest which the transportation companies take in matters of sanitary improvement.

ONLY ONE SLACKER RAILROAD

These offers of coöperation soon took tangible form in actual building operations, and, so far as is known, only one railroad refused to install the needed improvements. In this instance the Public Health officer in charge of the extra-cantonment zone laid before the officials of



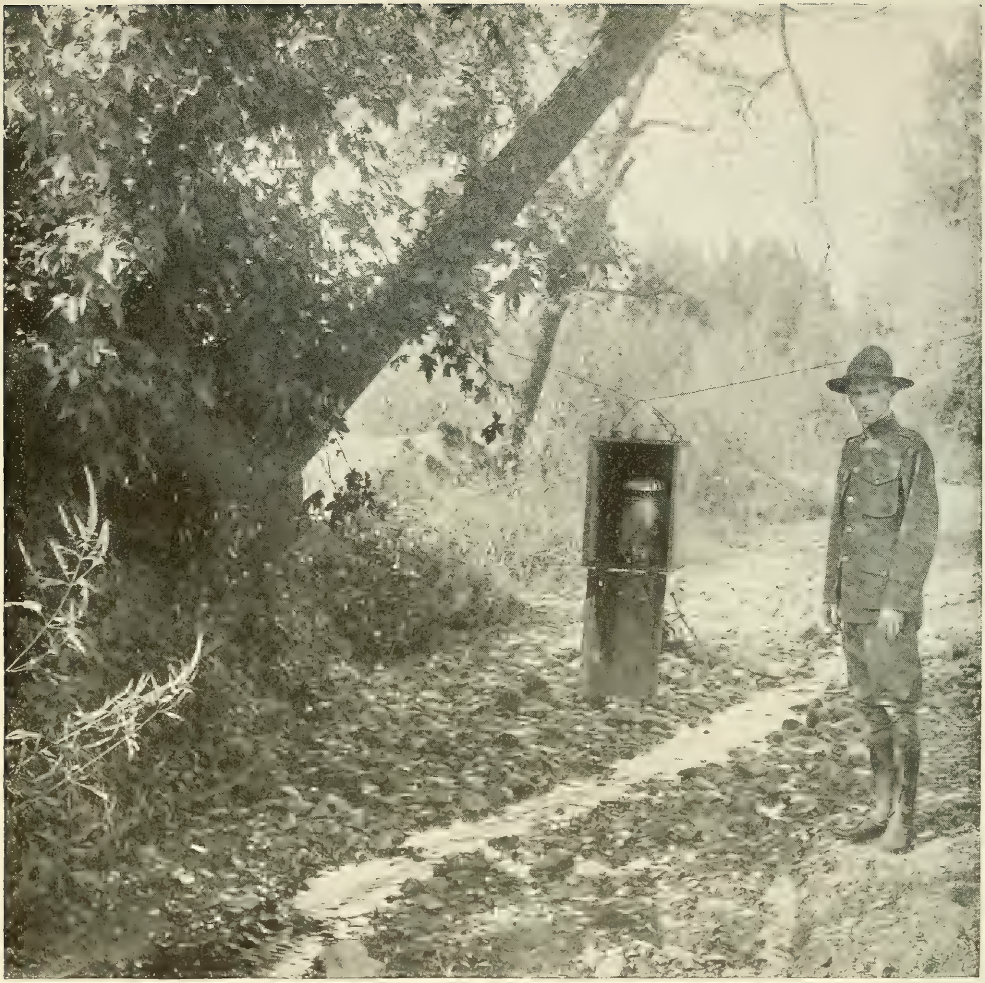
DITCHING AN OPEN STREAM IN THE CITY OF LITTLE ROCK FOR THE CONTROL OF MOSQUITO BREEDING

For many years people living along this stream have suffered from malaria. Preventing the mosquitoes from breeding here destroys the carriers of the disease and thus safeguards the thousands of our young men who have come to train in Camp Pike. More than 80 miles of open ditch drains have been maintained in Little Rock during the past summer in such a way as to prevent mosquito breeding. This view shows a ditching gang at work clearing the small obstructions from the stream and trimming the rough banks so as to prevent eddies forming in which mosquito eggs may be deposited.

LETTING IN THE SUNSHINE BY CUTTING CAT-TAILS AND DRAINING SWAMPS:

In order to rid a community of the malaria scourge, it is necessary to do away with mosquitoes. This can best be done by destroying their breeding places. The picture shows the digging of a ditch in order to drain an area of stagnant water in which hundreds of thousands of mosquitoes were breeding in an extra cantonment area.

FISHING FOR MOSQUITO LARVÆ IN A CAT-TAIL SWAMP: EXTRA CANTONMENT ZONE, CAMP ZACHARY TAYLOR



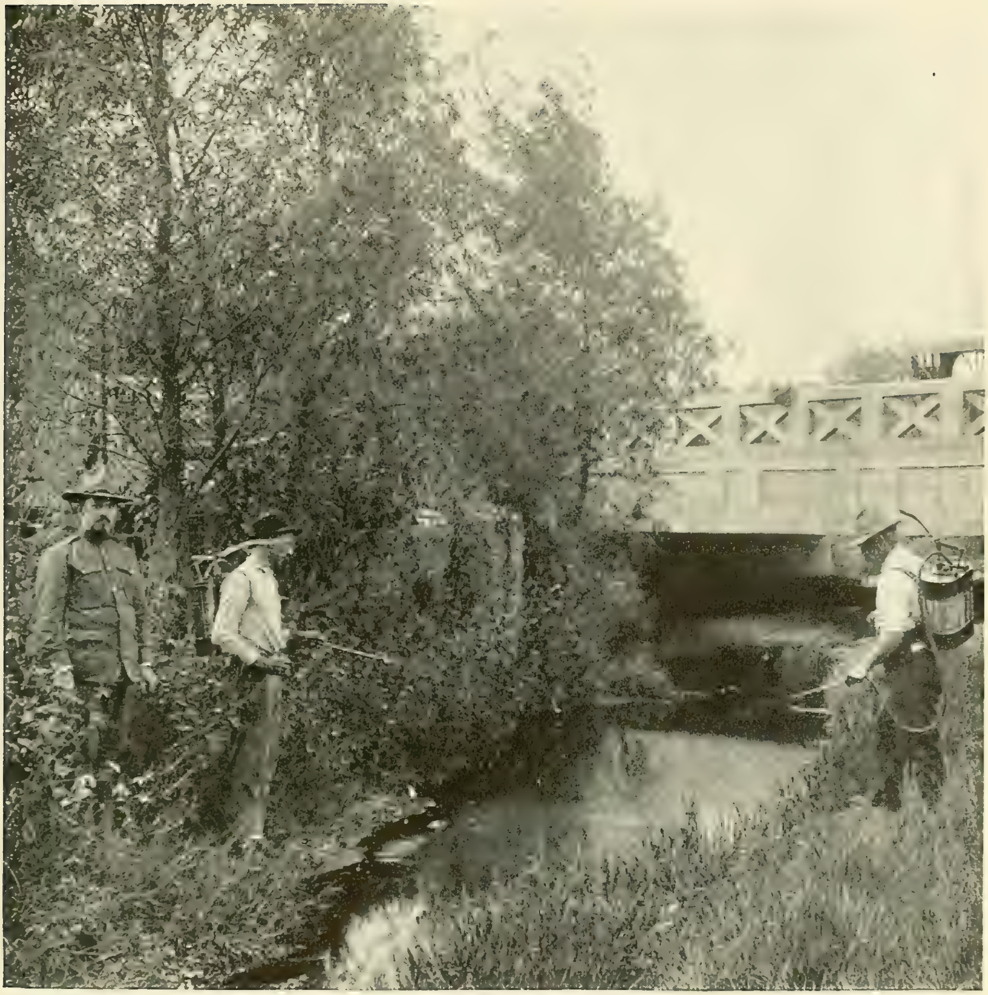
ON STREAMS WHERE THERE IS A PERMANENT FLOW OF WATER, DRIP-CANS ARE INSTALLED TO FURNISH A CONSTANT FILM OF OIL FOR SUCH STREAMS

The box lid, now turned down, is closed and locked after the can is filled with oil. The faucet on the drip-can is adjusted so that from twenty to thirty drops of oil per minute fall upon the water surface through a small opening in the bottom of the box. The padlocks on all drip-can boxes are opened with one master-key. The photograph was made on Swaggerty Creek, within the limits of the city of Little Rock.

the company the necessity for adequate toilet facilities. No action was taken. Again he brought the matter to their attention, this time in writing. Still there was no result. The case was taken into court, and the railway company fined $50 and directed to start work immediately. In reporting this incident to the Bureau, the officer in charge expressed his regret at being obliged to take this course of action, because, he said, "I had hoped to conduct this entire campaign without a single arrest."

Space does not afford to tell the story in its entirety—to describe the methods by which over 60,000 civilians in the extra-cantonment zones alone have been voluntarily vaccinated against typhoid fever since the 1st of July; of the way in which the medical inspection of schools has been instituted at various points; of the methods pursued in securing the active coöperation of recalcitrant councilmen in the passage of milk ordinances which had hitherto been opposed by reason of financial interests in the dairies.

Whole rural communities in which a few months ago not a single family was supplied with sanitary outhouses, now dispose of their excreta in concrete



VIEW SHOWING OILING OPERATIONS FOR THE CONTROL OF MOSQUITO BREEDING

Such pools as cannot be drained are sprayed with a mixture of one-half kerosene and one-half crude petroleum once each week. For this work knapsack hand sprayers are used, which enable the oilers to throw a stream of oil a distance of 20 to 30 feet.

vaults, and parenthetically it may be remarked that the cost of construction of these vaults has been reduced from over $50 to an average cost of $12.07, including labor and material (see page 270).

WATCHING FOR SPUTUM-BORNE DISEASES

The work, of course, is being continued. In fact, it may be said to be just beginning. Of necessity all the year round there must be a fight against the excreta-borne diseases. From the 15th of February to the 15th of September there must be a ceaseless war upon the mosquito. From the 15th of September to the 15th of April, the time in which people are herded most closely together, every known measure must be taken to control the acute sputum-borne diseases.

By acute sputum-borne diseases is meant mumps, measles, whooping-cough, cerebro-spinal meningitis, and that horde of general infections embraced by the term "common colds." The great remedy which society possesses in the combat against these diseases is general education in personal hygiene, so that infected individuals will take due precaution to prevent the transference of their disease-bearing sputum to others.

Of course, everything which is being done in this campaign helps to control tuberculosis, and it may be predicted that one of the by-products of the war will be a decrease in the great white plague. When all is said and done, the cure and prevention of this disease lies in the full dinner-pail and all that goes with it, and coincident with the rise in wages and the increase in employment there will be an increase in food, and an improvement in housing, clothing, and all of the other things which tend to counteract the miseries of human life.

The energetic campaign which is being waged in coöperation with the strictly military authorities against those insidious social diseases whose occurrence is such a threat against organized society and the successful conclusion of the war deserves a word.

COMBATING INSIDIOUS SOCIAL DISEASES

Suffice it to say, that through the administration of the vice law by the War Department and the frank education of the general public by the Public Health Service, much is being accomplished. This problem is being handled solely on the basis of the prevention of the spread of communicable disease.

When it is realized that the diseases comprising this group are largely spread by chronic carriers, and that contact, either direct or remote, is the method by which this spread occurs, it is realized that there need be no more hesitancy in frankly combating them than obtains in the case of the other diseases which are spread by contact; for example, smallpox, which, terrible as it is, does not even remotely approach the disastrous effects which the social evil works on the present generation as well as those yet unborn. Dispensaries are being established for the cure of civilians who have these diseases and are therefore potential distributors of them.

Healthful recreations are being provided by the War Department to counteract the allurements of vice. The general public in the extra-cantonment zones is being organized in an attempt to control the spread of these entirely preventable diseases. Some of this work is being done entirely by the War Department; some entirely by the Public Health Service, and all of it is being done in complete and close coöperation between the two departments. That there is great need for this work there can be no doubt; that it will do great good is equally true.

BETTER NATIONAL HEALTH A BY-PRODUCT OF THE WAR

One thing is certain, the work which is now going on is building permanently for a better public health. It is laying the foundations for an improvement in community conditions which we have every reason to believe will gradually spread throughout the United States. In each of the places in which the Public Health Service is now conducting its operations a strong and enduring health machine is being built up. Just as soon as the local community will take this over, it will be transferred. The model morbidity registration areas will, it is hoped, gradually expand peripherally, until by the meeting of their borders they will coalesce and we will have in America a system for the collection of disease data, the like of which the world has never seen.

This campaign means much more than the present protection of the public health. It is a gigantic demonstration of what can be accomplished in the prevention of disease. Just as the work which was done in the control of malaria at Panama set a standard for all the world, so the present operations will lead to sanitary campaigns in zones which at present are only rather remotely concerned with the war movement.

In the areas in which the government is now conducting this wholesale onslaught on communicable disease there will be a lowering in the sickness rate, a decrease in the number of deaths, an improvement in the efficiency of the whole community, with a consequent added prosperity. Results such as these can be obtained at any place in the world in which the people and their health guardians are willing to work actively and intelligently.

One thing this war has taught us: men are not so cheap as we once thought them. Human life and human efficiency are the two most precious things on earth. If out of this awful labor of war a strong public health sentiment for the entire nation can be born, then will our sacrifices not have been in vain.

PRACTICAL PATRIOTISM

MEMBERS of the National Geographic Society will be highly gratified to learn of the many important ways in which their organization has been able to coöperate with the national government in this critical hour of our country's history.

When the draft law was passed, a tremendous burden was thrown upon the offices of the Provost Marshal General in the mailing of special instructions to thousands of officers throughout the country, where 10,000,000 men were to register. In this emergency the services of all the graphotype machines used in making stenciled addresses for the GEOGRAPHIC were offered. The offer was accepted at once, and the entire force of young men employed in the addressing department volunteered to work day and night in making the thousands of stencils which the government required, and the work was thus completed in record time and without expense to the War Department.

Several hundred young ladies of the staff have made innumerable sweaters, neckpieces, and socks for our sailors and soldiers, and bandages, towels, sheets, etc., for the Red Cross, and have, furthermore, equipped themselves for emergency by taking special courses in first-aid nursing.

The entire staff of the Society's offices was placed at the disposal of the Secretary of the Treasury during the First Liberty Loan campaign, in order that each of its 610,000 members might receive by mail the government's appeal, to which there was a phenomenal response.

AIDING THE RED CROSS

On the day the announcement was made of the campaign to raise one hundred million dollars for the American Red Cross, the Director and Editor of the Society took from the presses the forms for the issue of the NATIONAL GEOGRAPHIC MAGAZINE, then ready, and remade the issue completely, in order that the Society's members might be told of the imperative needs of the Red Cross, of that which must be achieved during the coming months, and of the funds required to prepare for such a tremendous task. This movement was given splendid impetus by printing in the Society's magazine, while the $100,000,000 campaign for funds was at its height, special articles and addresses by Henry P. Davison, Chairman of the War Council of the Red Cross; Ian Malcolm, member of the British Red Cross, and of the House of Commons; John H. Gade, of the American Commission for Relief in Belgium; Herbert C. Hoover, the Food Administrator, and former head of Belgian Relief Work; Frederick Walcott, of the Food Administration; Newton D. Baker, Secretary of War; General John J. Pershing, commanding the American expeditionary forces in France; former President William Howard Taft, and Eliot Wadsworth, Executive Secretary of the American Red Cross, and others.

In the same issue of the Magazine full-page advertisements were published gratis for the American Red Cross fund, for the Y. M. C. A. War Fund, and for the First Liberty Loan.

THE PATRIOTIC FLAG SERIES

One of the most important contributions to be made by the Society to the cause of America at War will be the publication of a special "Flags of the World" number, containing the most expensive series of four-color plates ever printed by any publication in the history of the magazine industry. It will be a popular digest of patriotism as exemplified in the national emblems, past and present, of our own and of all other countries, each subject absolutely accurate as to design and color, a total of more than one thousand color illustrations, besides numerous pages in black and white. The standards, pennants, and insignia have been assembled by the foremost flag expert of the American Government, and probably the foremost authority on national ensigns in the world. The descriptive and historical text accompanying the flags will represent six months' of exhaustive research by the magazine staff. The color work alone in this issue will cost $60,000, and the number will be the world's most thorough and authentic text-book on the flags of seven centuries.

THE NATIONAL GEOGRAPHIC WARD

An activity of the Society which is appealing with special force to its patriotic membership is the announcement of the plan to establish in the American Ambulance Hospital at Neuilly, France, a special *National Geographic Society Ward*, consisting of twenty beds. This American hospital is housed in a splendid four-story building surrounding a beautiful court. It is now accommodating 1,500 patients daily in its main building and its auxiliary institutions.

This hospital was established by American subscriptions, and the Geographic's ward will be a notable addition to this magnificent humanitarian institution for the relief and care of young Americans who will bear the brunt of battle against the Huns. In inviting contributions to this fund from its members the Society gives assurance that there will be no overhead expense in the handling of the contributions, but that every dollar subscribed will be devoted to equipment and maintenance of the ward.

THE LIBERTY LOANS

In the campaign for the Second Liberty Loan of $3,000,000,000, just launched, the Society was one of the first organizations to proffer, without cost, the pages of its magazine, the GEOGRAPHIC, to the government—an offer which was accepted, as upon the occasion of the successful flotation of the First Liberty Loan of $2,000,000,000.

The National Geographic Society has subscribed from its reserve funds $100,000 to the Liberty Loans.

In the great work of bringing home to the people of America the imperative need for the conservation of the nation's food resources, no agency has been more whole-hearted or more effective than our Society, whose more than 600,000 members have been and are being kept in closest touch with the National Administration in its great educational campaign. Through the pages of the GEOGRAPHIC the Food Administrator has been given the opportunity to speak directly to those gathered at the firesides of more than half a million of the most representative and influential American homes.

In a similar manner, guardians of the nation's health, and especially of the health of the national army now assembled for training in the cantonments scattered throughout the land, are speaking through the pages of the GEOGRAPHIC to the great civilian population in the vicinity of these cantonments, explaining how the health of the new army can be safeguarded by civilian coöperation.

And, as the needs of the nation grow greater in these stressful days, the administrative headquarters of the Society in Washington is daily finding new avenues of activity and usefulness.

CONTRIBUTING SUBSCRIPTIONS TO OUR ARMY AND NAVY

The GEOGRAPHIC is now being sent gratis to the reading-rooms, libraries, the Y. M. C. A. and Knights of Columbus buildings in every aviation camp, army and navy camp, cantonment, and officers' training camp in the United States, while the boys in khaki "Over There" are likewise receiving OUR magazine regularly, their spirits heartened by the illuminating illustrations and comprehensive articles telling of what is being done on this side of the Atlantic to help them in their great undertaking to make the world safe for democracy.

When the "Flags of the World" issue of the GEOGRAPHIC comes from the press (the next number), ten thousand copies will be donated by the Society to the two arms of the service—5,000 copies going to the navy and 5,000 to the army. The heads of both branches of the service have already expressed their sincere appreciation of the valuable and useful gift of the most complete and authoritative work on flags and insignia ever compiled in any country—a work which will stir the patriotic pride of every American, whether in civil or military life.

Thus is its power for practical patriotism being exercised by the National Geographic Society, the largest scientific organization in the world—an organization established not for profit, but for the diffusion of geographic knowledge and for the furtherance of the enlightenment, entertainment, and happiness of the citizens of the United States of America. These ends can only be achieved in an atmosphere of security, freedom, and peace, and to aid in guaranteeing these requisites of human happiness the GEOGRAPHIC is enlisted with all its resources and the combined patriotic fervor of its whole membership.

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THE
NATIONAL
GEOGRAPHIC
MAGAZINE

OUR FLAG NUMBER

FLAGS symbolize the noble aspirations and glorious achievements of the human race; they epitomize the romance of history; they incarnate the chivalry of the ages.

Their origin is divinity itself; for when, at the beginning of recorded time, Jehovah made a covenant with man, promising that never again would He send the waters to cover the face of the earth and destroy all flesh, He unfurled the first flag—the multihued banner of the rainbow—which he set in the clouds as a symbol of security and an assurance to all future generations of His watchful care.

And since that day man has, in his finite way, employed his earthly banners as emblems of faith, of hope, and of high resolve.

Around the bits of varicolored bunting which the people of each land nominate as a national flag, there cluster thoughts of loyalty, of patriotism, and of personal sacrifice which have enabled the world to move forward, from the days when each individual struggled for himself alone, like other wild animals of plain and mountain side, until, through community of interests and unity of effort, mankind has been enabled to rear the splendid structure of twentieth century civilization.

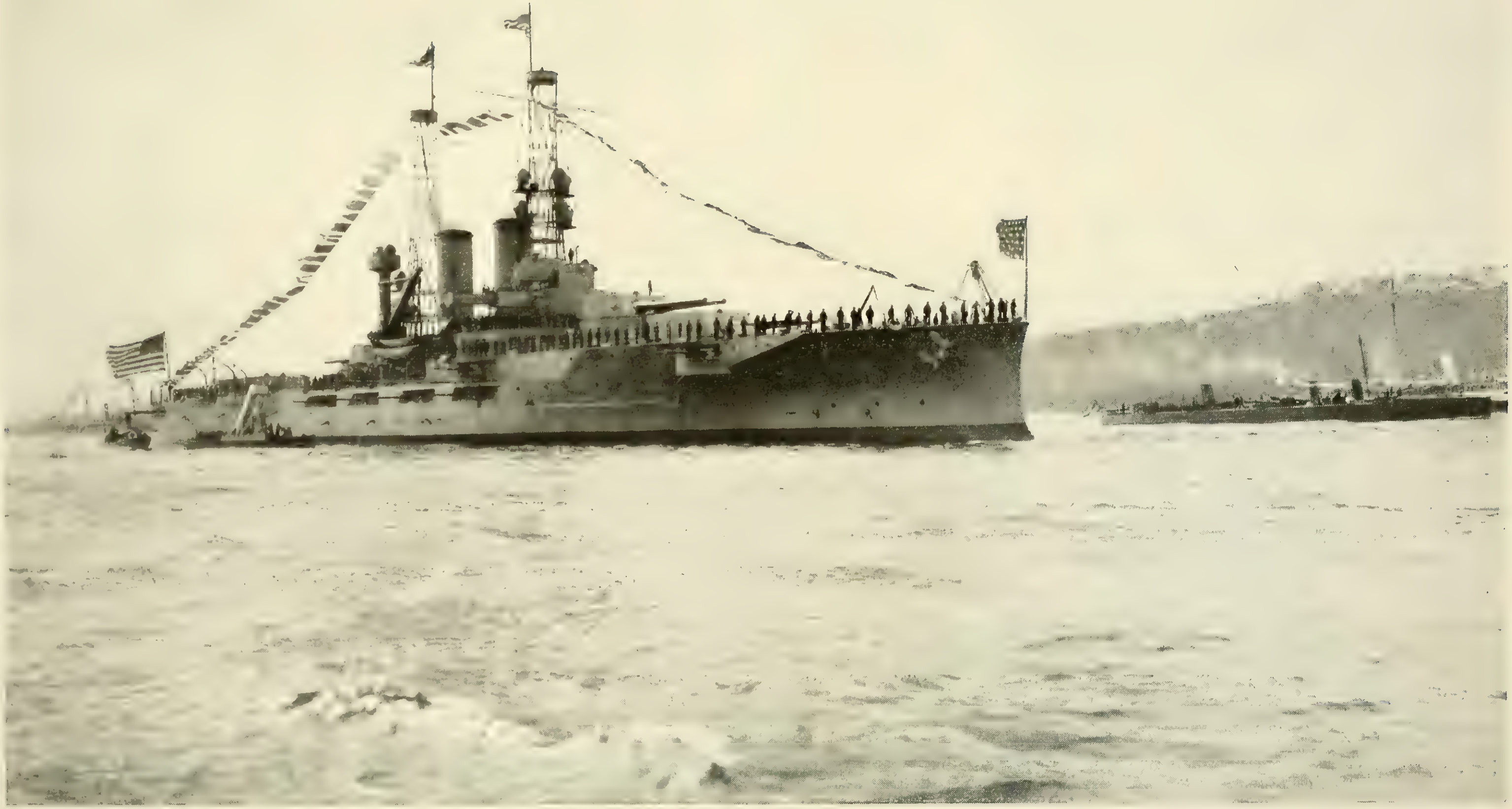
When the savage began to emerge from his isolation and took the first steps toward becoming a social creature, profiting by association and coöperation with fellow human beings, one of his first needs was a sign or a symbol whereby he could distinguish, during primitive battles, between creatures of his own tribe or family and those of enemy tribes. A peculiar type of club, a splotch of colored clay on the body of the warrior, and later some rude device on his clumsy shield served for a time the purpose of insignia. Eventually these bits of wood, bodily ornamentation, and shield signs were replaced by the skins of animals attached to poles so that they might be held high in the air and recognized at a distance. From such crude beginnings it is easy to trace the evolution of the flags of civilized man.

Today, while it is true that we are thinking of the flags of our own and of other nations in relation to sanguinary strife, these emblems of armies and navies have a deep and noble significance far removed from their use in leading men to battle. In reality flags are the bulwarks of idealism.

AN INSPIRATION TO PERSONAL SACRIFICE

The flag epitomizes for an army the high principles for which it strives in battle. Were it not for the ideals which it keeps ever before the soldier he would be bestialized by slaughter. It keeps men's motives lofty even in mortal combat, making them forgetful of personal gain and of personal revenge, but eager for personal sacrifice in the cause of the country they serve.

With full realization of what the stories of the flags of the world mean, each to its own people, and with the belief that Americans will be inspired by under-



Photograph by U. S. Navy Department

ON REVIEW

The seamen, spaced equally distant, are manning the rail, a part of the ceremony when the President or a sovereign passes a ship of the navy. The national ensign (1) is flying at the stern and the jack (4) at the bow.

Photograph by Paul Thompson

THE PRESIDENT OF THE UNITED STATES ON BOARD A BARGE WHICH FLIES HIS FLAG AT THE BOW WHILE TAKING HIM FROM THE "MAYFLOWER" TO THE FLAGSHIP (SEE ALSO PAGE 324)

The President's flag (No. 2, page 310) is one of the most difficult flags to make, requiring the labor of a skilled seamstress for an entire month. Every detail of the eagle, each feather and each scale, must be carefully embroidered. On two days of the year the ships of the American Navy are "full dressed," as are the battleships shown here. Those occasions are the Fourth of July, the birthday of the nation itself, and the Twenty-second of February, the birthday of him who will ever remain first in the hearts of his countrymen. To "full-dress ship" is also permissible as a matter of international courtesy, when in foreign ports, upon the occasion of the visited country's national holidays or in honor of the presence of their men-of-war.

standing and appreciating the motives, the traditions, and the sentiments which have given birth to these various symbols of sovereignty, the NATIONAL GEOGRAPHIC MAGAZINE presents this issue, devoted to the flags of all countries.

In the present world struggle, in which the United States of America is now engaged, we of this land hold to the ideals represented in the history and the promise of the Stars and Stripes—the ideals of life, liberty, and the pursuit of happiness safeguarded for all mankind.

And though many must fall in the achievement of those ideals, a noble and imperishable good will endure as a monument to their sacrifice. History can bestow upon such soldiers no higher encomium than that of Defenders of the Flag.

In the presentation of 1,197 flags in their accurate colors and design, the NATIONAL GEOGRAPHIC MAGAZINE issues the most expensive as well as the most instructive and beautiful number in the whole history of periodical literature.

THE BIG TASK OF MAKING THE FLAG NUMBER

In assembling the flags of the world, in choosing the correct from the spurious designs, and in mobilizing, so to speak, the flag lore of our own America, as well as in the research which has made it possible to present here many flags pregnant with historic associations, the National

Geographic Society has been fortunate in having the enthusiatic coöperation and active professional services of the foremost flag expert of the United States Government and probably the leading authority in the world on flag usages among maritime nations — Lieut. Commander Byron McCandless, of the United States Navy.

Lieut. Commander McCandless was the flag officer of the American fleet at Vera Cruz in 1913, and in the performance of his duties there he found that the signal officers and enlisted men were handicapped in their work by the non-existence of a flag book. Being far removed from a printing establishment, the ingenious officer met the condition by chiseling flag plates from leaden sheets and printing in color a book of flags with a handpress installed on the flagship. This unique publication attracted wide attention among naval officers, and the demand for copies of the work became so great that the improvised flag plates, made of soft metal, soon wore away.

Lieut. Commander McCandless was induced by the National Geographic Society to undertake, with the consent of the Secretary of the Navy, the assembling of the flags of the world for this issue of the GEOGRAPHIC. In view of the value of this flag material to the government, the Society has donated 5,000 copies of the Flag Number to the United States Navy and 5,000 copies to the Army.

In addition to the expert services of Lieut. Commander McCandless, the Editor has had the assistance of John Oliver La Gorce, the Associate Editor; of William Joseph Showalter, Ralph A. Graves, Franklin L. Fisher, and other members of the editorial staff in the months of research work necessary to secure the historically accurate data descriptive of the more than 1,200 flags in colors and in black and white. Thus, through such concerted effort, it is possible to present in this issue the most complete and authoritative work on flags ever published.

The engraving of the coats-of-arms and devices appearing on many of the banners and the preparation of all the color plates in their accurate proportions, as well as the notable achievement in rich color printing, have been accomplished through the mechanical efficiency and artistic coöperation of the Beck Engraving Company of Philadelphia. In the processes of color printing it was necessary to operate the presses in daylight only, in order that the tints and shades might be kept true for each of the 23,000,000 pages (32 pages of color in each of more than 700,000 copies of this issue of the magazine).

The Flag Number, like all the other issues since the founding of the magazine twenty-nine years ago, owes its attractive typographical appearance to Messrs. Judd & Detweiler, Inc., of Washington, D. C.

THE WORK OF PRINTING

Every one will readily appreciate that the cost of our flag number far exceeds the moderate price at which it is distributed to members of the Society (one-twelfth of the annual membership fee), a sum not sufficient to cover the bare cost of the paper, engraving, and printing. This deficit is made good from the Society's educational fund, but for additional copies the price will necessarily be 50 cents each.

So vast has grown the membership of the National Geographic Society that one finds it hard to realize how wide-spread is the geographic interest it has engendered or how many magazines must be printed before each member can receive his or her copy. Two striking illustrations of the Society's numerical strength have come home to the Editor in the issuance of the current number. With one of the largest color printing plants in America engaged in producing the 32 pages of flags in colors, it took 75 working days—three months—to print these alone.

The attention of the reader is directed to the little vacant spaces after flags 640 and 666 respectively (pages 350-351). These blank intervals do not seem to be more than negligible; and yet, running through the entire edition, they occupy more than 700,000 square inches of space, or 1,728 pages the size of the NATIONAL GEOGRAPHIC MAGAZINE. Put side by side they would form a ribbon of paper twenty miles long.

GILBERT GROSVENOR,
Editor and Director,
National Geographic Society.

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Photograph by Brown Brothers

SALUTING THE FLAG IN SCHOOL

The salute to the flag fosters a spirit of unity and loyalty among the future citizens of the land, regardless of the many racial stocks from which these children may have sprung. Happily, educators are rapidly appreciating the importance of such outward symbols and ceremonies, and it is hoped that the time is at hand when such patriotic customs will be universally adopted in our public and private schools.

THE STORY OF THE AMERICAN FLAG

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AS IF in augury of that perpetual peace for which all mankind hopes as the outcome of the world war, immediately following the entrance of the United States of America into the great struggle to secure democracy for all peoples and freedom from the menace of militarism for all nations, the Stars and Stripes were received gratefully and reverently into that historic shrine of the English-speaking race—St. Paul's Cathedral, London—there to be preserved among the hallowed banners of the hosts of liberty (see page 302).

This epochal event marked the alliance, in a sacred cause, of the two great self-governing Anglo-Saxon nations just 140 years after the birth of that Star Spangled Banner in the travail of the conflict which severed the American Republic from the British Empire.

From the embattled pinnacle of high resolve and lofty idealism where the American flag has always floated, the course of its rise may be surveyed—an inspiration to the patriot, an enduring emblem of hope for the oppressed. The story of the Stars and Stripes is the story of the nation itself; the evolution of the flag is symbolic of the evolution of our free institutions; its development epitomizes the amazing expansion of our boundaries and the development of our natural resources; its glorious history is the history of the people whose sovereignty it signifies.

In the embryonic days of the republic, when the Thirteen Original States were still feeble British colonies bordering the western shores of the Atlantic, there were almost as many varieties of banners borne by the Revolutionary forces as there are today races fused into one liberty-loving American people.

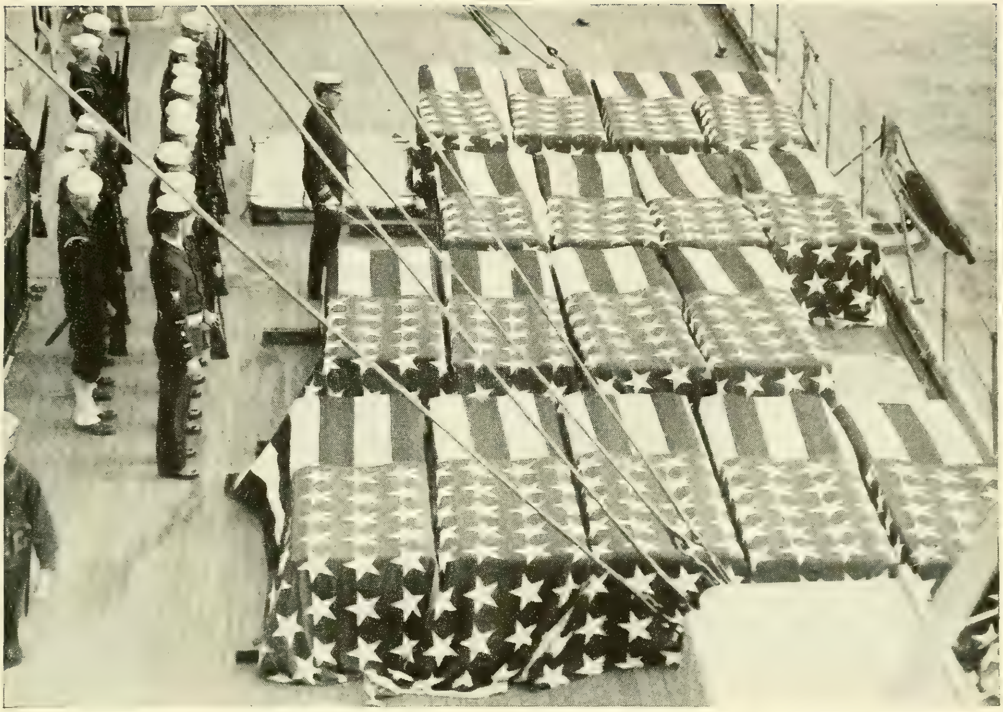
The local flags and colonial devices (Nos. 361-366, 377-422) displayed in battle on land and sea during the first months of the American Revolution proclaimed the attitude of the people of the several colonies in their grievances against the Mother Country.

When Bunker Hill and Lexington were fought, some of the staunchest patriots were still hopeful that an adjustment of the difficulties with the home government could be effected, and although on June 15, 1775, General Washington had been appointed commander-in-chief of the Continental forces raised, or to be raised, "for the defense of American liberty," the Continental Congress nearly a month later (July 8) addressed an appeal to King George in which the petitioners styled themselves "Your Majesty's faithful subjects."

DISINCLINED TO SEVER ALL TIES

Disinclined to sever all ties with England, yet bitterly resentful of the treatment accorded them and unyielding in their determination to resist further oppression, when it became necessary to adopt an ensign for their newly created navy, in the autumn of 1775, the revolting colonies chose a flag that reflected their feeling of unity with the Mother Country, but at the same time expressed their firm joint purpose to demand and obtain justice and liberty.

The events which resulted in the establishment of the Continental navy, and thereby the birth of the first flag representative of the thirteen united colonies, constitute one of the most picturesque chapters in American history. At the beginning of October the Continental Congress, sitting in Philadelphia, learned that two unarmed North Country-built brigs were sailing from England loaded with arms, powder, and other stores destined for Quebec. As the colonies were in sore need of powder and possessed neither factories for its manufacture nor ships for bringing it from abroad, Congress



THE BANNER UNDER WHICH THEY FOUGHT AND FELL IS NOW THEIR MARTIAL SHROUD

They went forth to battle and gave their lives to liberty. Theirs the hardships, theirs the sacrifice, theirs the honor, "nor shall their glory be forgot while Fame her record keeps."

instructed General Washington to apply to the Council of Massachusetts Bay for the two armed vessels in its service, to man them and to dispatch them with all speed in the hope of intercepting the munitions-laden brigs. The aid of the armed vessels of Rhode Island and Connecticut was also promised the commander-in-chief in this important enterprise.

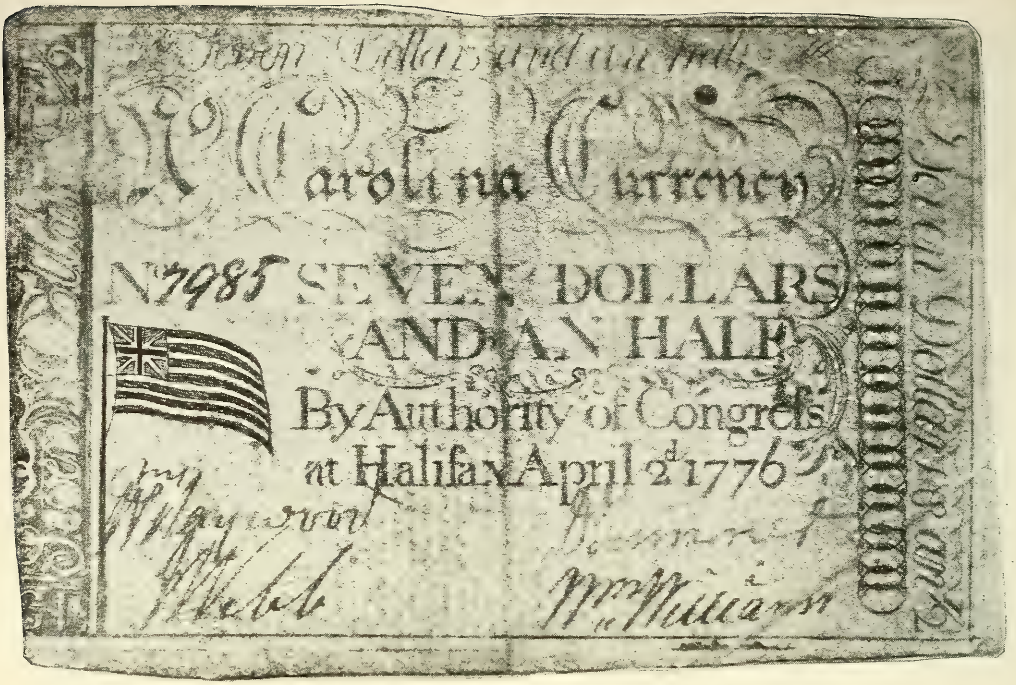
General Washington, of his own initiative, had already purchased two vessels, which he had fitted out, officered with army captains, and manned with soldiers. These ships were the *Lynch* and the *Franklin.* By November 1 four additional cruisers had been added to the fleet—the *Lee,* the *Harrison,* the *Warren,* and the *Lady Washington.*

Of this little fleet only the *Lee,* under command of John Manley, met with signal success in the bold undertaking. On November 29 it captured the brig *Nancy,* with a precious cargo of 4,000 muskets, 31 tons of musket shot, 3,000 round shot, several barrels of powder, and a 13-inch brass mortar, subsequently called "Congress," which was to play an important part in forcing the evacuation of Boston.

One of the colonial ships, the *Lady Washington,* was captured on December 7 by H. M. S. *Fowey,* and her colors, still in the Admiralty Office in London, are described as bearing a pale-green pine tree on a field of white bunting, with the motto, "An Appeal to Heaven" (391). This flag was flown by all the ships under Washington's command at this time, the design having been suggested by the commander-in-chief's military secretary, Colonel Joseph Reed, who wrote, on October 20, 1775, that he wished to "fix upon some particular color for a flag and a signal by which our vessels may know one another."

THE EARLY AMERICAN NAVY

Prior to the receipt of the news of the capture of the *Nancy* the Continental Congress had appointed Esek Hopkins commander-in-chief of the navy built by



THE EARLIEST PERFECT REPRESENTATION OF THE GRAND UNION ENSIGN (SEE NO. 364)

The flag is a part of the decorations appearing on North Carolina currency of the issue of April 2, 1776

Congress as distinguished from the soldier-manned fleet under General Washington. Immediately following his appointment Commodore Hopkins (the first and only commander-in-chief the navy ever had) set sail from Rhode Island in that colony's armed vessel *Katy* and arrived in the Delaware River on December 3, 1775. The same day the commodore assumed the formal command of the little squadron which the Congress had placed under him.

PAUL JONES RAISES THE FLAG

The manner in which that command was assumed is of signal importance, in that the ceremony marked the hoisting of the first truly American flag. And the distinction of having released the banner to the breeze belongs to that daring spirit, John Paul Jones, one of the chief among heroes in the hearts of American naval officers and seamen. Jones, at that time senior lieutenant (corresponding to executive officer in the navy today) of Hopkins' flagship, the *Alfred,* in a letter to "the United States Minister of Marine, Hon. Robert Morris," preserved in the Library of Congress, thus describes the historic event:

"It was my fortune, as the senior of the first Lieutenants, to hoist *myself* the Flag of America (I chose to do it with my own hands) the first time it was displayed. Though this was but a slight Circumstance, yet I feel for its Honor, more than I think I should have done, if it had not happened." A line is drawn through the words in parentheses and the word "myself" has been inserted.

This was the flag (364) which afterward figured so extensively in the literature of the day as the Congress Colors, from the fact that it first floated over the navy controlled by Congress. Also known as the Grand Union Flag and the First Navy Ensign, it was the Colonial standard from that day until it was superseded by the Stars and Stripes, in 1777. It consisted of thirteen stripes, alternately red and white, typifying the thirteen colonies, with a union bearing the crosses of St. George and St. Andrew combined (the national flag of Great Britain, 361) and signifying the Mother Country.

There has been much confusion about

the flags which were displayed on the *Alfred* on that historic December day. The statement is often made, and correctly, that Commodore Hopkins hoisted the Gadsden flag (398)—a fact which impresses some historians as a contradiction of John Paul Jones' assertion. Reference to naval usage, both of that day and of this, however, clarifies the supposed discrepancy. Flagships display three flags—the ensign, flown at the stern; the flag of the commanding officer, displayed at the mainmast; and the jack, which flies from the jackstaff at the bow.

The Gadsden flag (of yellow silk and bearing a coiled rattlesnake with the motto "Don't Tread on Me"), used on the *Alfred* as the flag of the commodore commanding the fleet, was presented February 8, 1776, to the Congress by Col. Christopher Gadsden, a delegate from South Carolina to the Continental body and one of the committee of three appointed on October 15, 1775, to report on the fitting out of two armed vessels. When that report was made, two weeks later, Colonel Gadsden was one of a committee of seven appointed to fit out four armed vessels.

The jack displayed on the *Alfred* on this occasion was a small, nearly square flag of thirteen alternate red and white stripes, bearing a crawling rattlesnake with the legend "Don't Tread on Me" beneath it (365).

CENSORSHIP IN REVOLUTIONARY TIMES

No mention of the ceremony of Commodore Hopkins' assumption of command of the little Continental fleet is to be found in the Philadelphia newspapers of that period. Indeed, the silence of the colonial press about the eight vessels fitted out, officered, manned, and sent to sea was as complete as was that of the American press of 1917, when General Pershing's expeditionary force embarked for the fields of France.

The intelligence reports to the British Admiralty were very explicit concerning the event, however. In minutest detail these reports described the ships of the fleet, how they were painted, the number of guns, officers, and men—all accurately supplied by the enemy's secret-service agents in the colonies. For example, the following report, under date of January 4, 1776, was sent from Philadelphia:

"This day, about one o'clock, sailed the ship *Alfred* and the ship *Columbus* with two brigs. *Alfred* carries 36 guns, 9 and 12 pounders; 60 marines and about 200 sailors. *Columbus* about the same number of men and 32 guns. The two brigs carry 16 guns. They sailed with five or six merchant ships loaded with flour from the Congress. Hopkins commands the *Alfred*. She has yellow sides, her head the figure of a man, English colours, *but more striped*. The *Columbus* is all black, except white bottom, with no head. Commanded by one Whipple."

HOISTING THE GRAND UNION FLAG AT CAMBRIDGE

One month after its baptism in the breezes, from the stern of the *Alfred*, the Grand Union Flag (364) was raised at Cambridge, Mass., on the very day that the Continental Army began its official existence—January 2, 1776—and General Washington is authority for the explanation that it was displayed "out of compliment to the United Colonies." It was two days after this event that Washington wrote to his military secretary, Joseph Reed, through whom he kept in touch with affairs at Philadelphia:

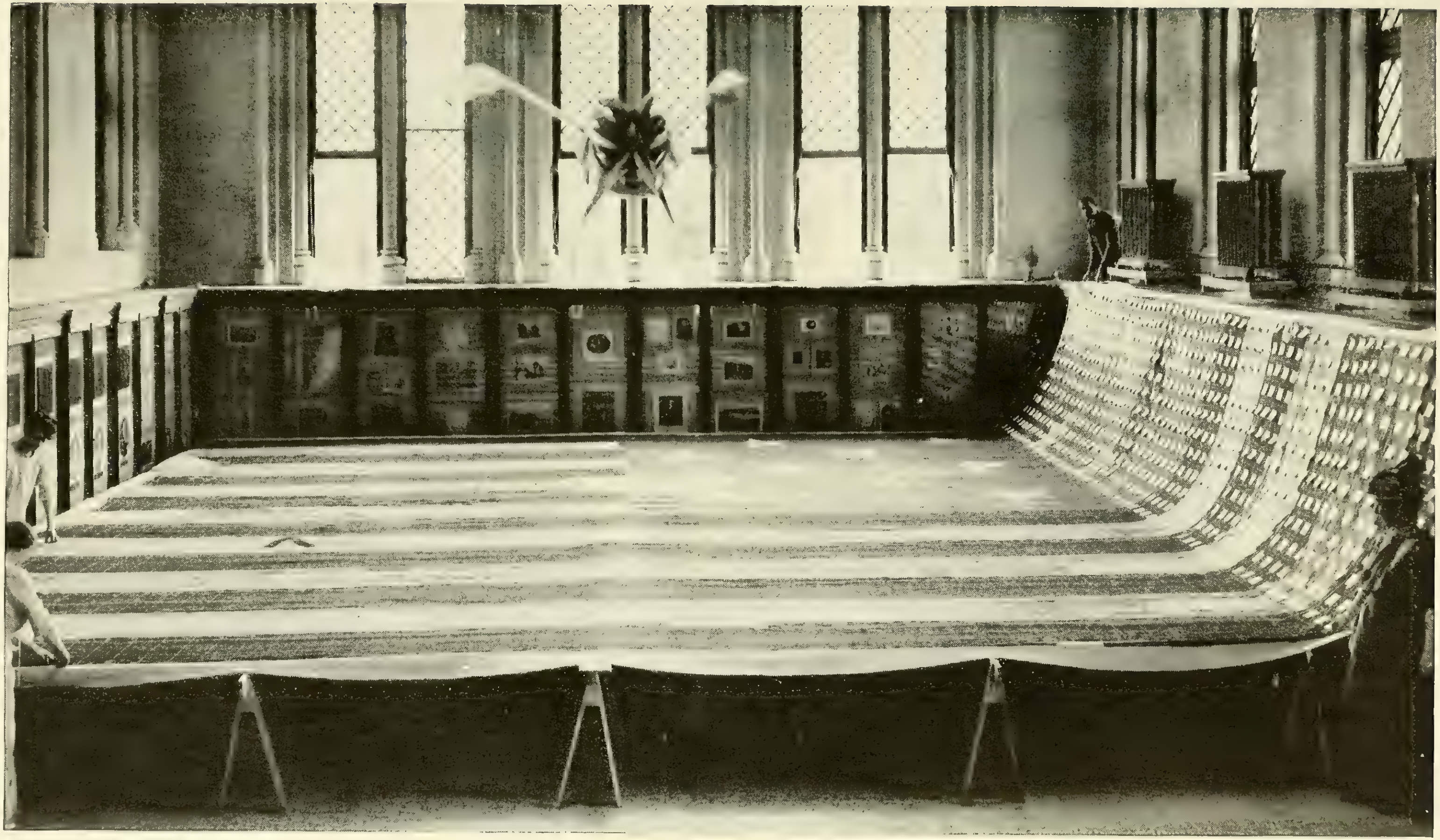
"We are at length favored with the sight of His Majesty's most gracious speech, breathing sentiments of tenderness and compassion for his deluded American subjects; the speech I send you (a volume of them was sent out by the Boston gentry), and, farcical enough, we gave great joy to them without knowing or intending it, for on that day (January 2) which gave being to our new army, but before the proclamation came to hand, we hoisted the union flag in compliment to the United Colonies. But behold! it was received at Boston as a token of the deep impression the speech had made upon us and as a signal of submission. By this time I presume they begin to think it strange that we have not made formal surrender of our lines."

Although displayed on the Continental Army's first birthday, neither the Grand Union Flag (364) nor the Stars and

© Edward Moran

THE FIRST SALUTE TO THE STARS AND STRIPES

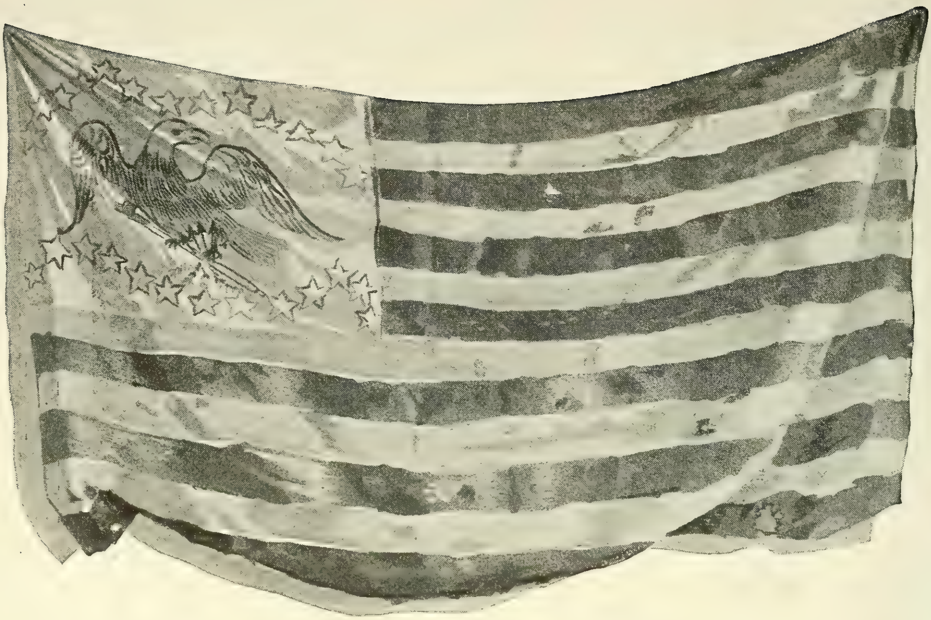
John Paul Jones, commanding the *Ranger*, fired a salute of 13 guns to the French fleet in Quiberon Bay on February 14, 1778, and received in return a salute of nine guns from Admiral La Motte Picquet, "the same salute authorized by the French court to be given an admiral of Holland or of any other republic." Thus was American independence first acknowledged in Europe (see page 301). The illustration is one of the famous marine paintings by Edward Moran in the National Museum, Washington, reproduced by courtesy of Theodore Sutro, New York.



© Harris & Ewing

THE ORIGINAL "STAR SPANGLED BANNER" OF OUR NATIONAL ANTHEM

The national flag which flew over Fort McHenry in the War of 1812 is carefully preserved in the U. S. National Museum at Washington. In the illustration expert needlewomen are shown restoring the banner and mending its rents. The white tags on the flag, at the right of the picture, were used in checking the work of each repairer. Every American school-boy knows the story of Francis Scott Key's errand, under a flag of truce, to the British fleet during the attack on Baltimore in September, 1814. Detained on board an enemy ship, he watched the bombardment of Fort McHenry, Baltimore's defense, during the night of the 13th. In the morning he was thrilled to see the Stars and Stripes still waving triumphantly. Whereupon he wrote his famous poem which is now the national anthem (see page 306).



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THE FREMONT FLAG

When General John Charles Fremont, surnamed "the Pathfinder," made his way across the continent in the '40's, his mission was one of peace, but the arrows in his army flag suggested war to the Indians of the plain. Therefore he inserted the calumet, or pipe of peace, crossed with the arrows in the talons of the eagle. It is interesting to note that the army did not carry the Stars and Stripes until the period of the Mexican War (see pages 307-308 and flag 22).

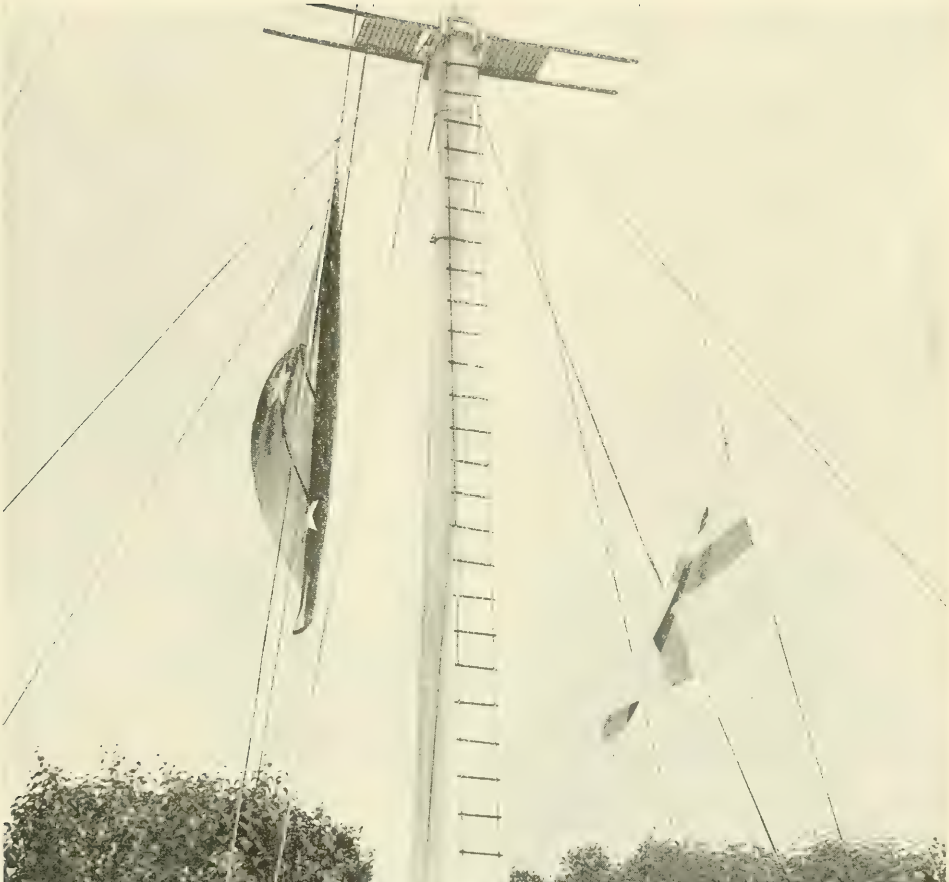
Stripes (6), adopted by Congress a year and a half later, was carried in the field by the land forces during the Revolutionary War. The army carried only the colors of the States to which the troops belonged (see flags 394, 396, 403, 409, 410, etc.) and not the national flag.

THE FIRST VICTORY OF THE AMERICAN FLAG

It fell to the lot of the newly created Commodore Manley (the officer who had commanded the *Lee* and captured the ordnance ship *Nancy*) to carry the Grand Union Flag to its first victory. Commanding the *Hancock,* Manley captured two enemy transports, placed prize crews aboard, and then, with only 16 men left on his own ship, he engaged an armed vessel in sight of the enemy fleet at Boston and succeeded in bringing his prizes safely into Plymouth. Following this daring exploit Manley received a letter written at Cambridge, on January 28, 1776, by General Washington, who declared that the commodore's achievement merited "mine and the country's thanks," and promised him a "stronger vessel of war."

On Major Samuel Selden's powder-horn of that period is a carving showing Boston and vicinity. The British fleet is depicted on one side of Boston Neck, while Manley's symbolical ship *Amaraca,* flying at the stern the Continental Union flag as its ensign, and at the mainmast the pine-tree flag as the commodore's flag, is shown on the other side. The mortar carved on the horn is the famous "Congress" gun captured by Manley on the *Nancy*.

The first occasion upon which any American flag floated over foreign territory was on March 3, 1776. Commodore Hopkins, of the Congress fleet, organized an expedition against New Providence, in the Bahama Islands, for the purpose of seizing a quantity of powder known to be stored there and of which both General Washington and the fleet were in



Photograph from Central News Photo Service, official naval photograph

VICE-ADMIRAL SIMS WITH BRITISH AND AMERICAN STAFF OFFICERS AT THE HOISTING OF THE AMERICAN VICE-ADMIRAL'S FLAG (65) AT ADMIRALTY HOUSE WHEN HE TOOK TEMPORARY COMMAND OF QUEENSTOWN AND DISTRICT

Vice-Admiral Bayley's flag (606) is being hauled down

U. S. S. "SYLPH" FLYING THE FOUR-STAR FLAG OF ADMIRAL BENSON, CHIEF OF NAVAL OPERATIONS (64), ON THE MAINMAST, AND THE FLAG OF VICE-ADMIRAL BROWNING, OF THE BRITISH NAVY (606), ON THE FOREMAST

Our naval jack (4) is flying at the jackstaff, but the motion of the steamer has given the stars a striped effect

great need. Two hundred marines were landed, under the command of Captain Nichols, supported by fifty sailors, under Lieutenant Weaver, of the *Cabot*. The *Providence* and the *Wasp* covered the landing party. Fort Nassau was taken and a great quantity of military stores fell into the hands of the expedition.

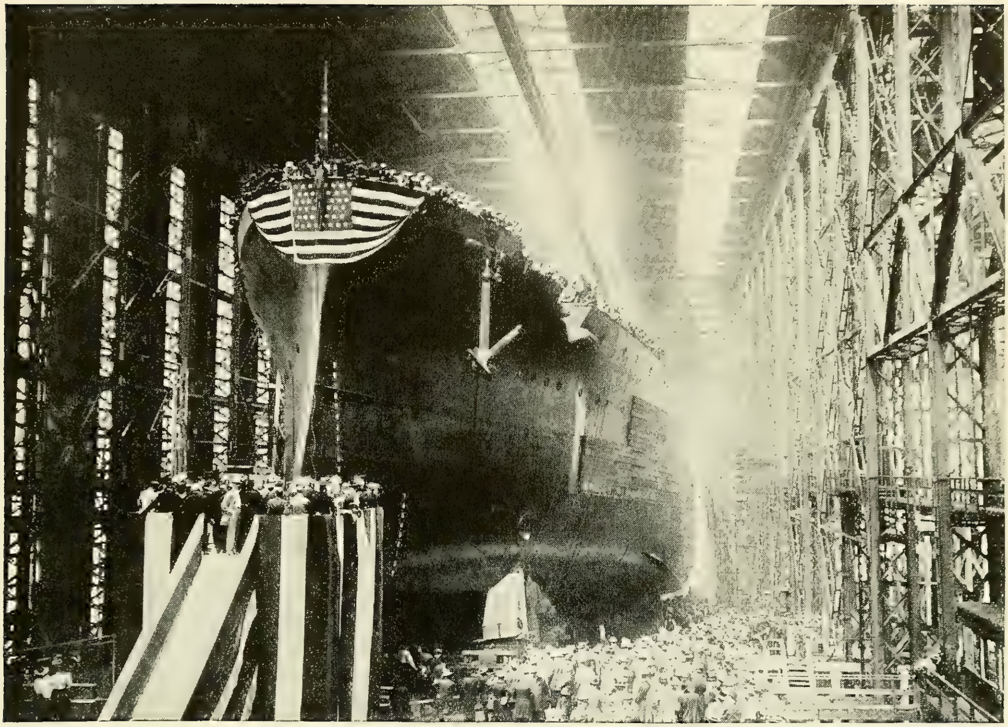
A correspondent of the London "Ladies' Magazine," who was in New Providence at the time of the capture of the fort by the American forces; under date of May 13, 1776, described the colors displayed by the marines and sailors as "striped under the union (the British union of the crosses of St. George and St. Andrew) with thirteen stripes" (364), while "the standard (the commodore's flag) bore a rattlesnake and the motto "Don't Tread on Me" (398).

THE FIRST FOREIGN SALUTE TO AN AMERICAN FLAG

The first salute ever fired in honor of an American flag (the Grand Union ensign) was an eleven-gun volley given by the Fort of Orange, on the island of St. Eustatius, Dutch West Indies, on November 16, 1776. The salute was in acknowledgment of a similar number of guns fired by the *Andrew Doria* (see also page 401), one of the original vessels of Commodore Hopkins' fleet, which had been sent to the West Indies, under command of Captain Isaiah Robinson, for a cargo of military supplies.

The commander of the near-by British island of St. Christopher, hearing of the salute, protested to the Dutch governor of St. Eustatius, Johannes de Graef, who promptly replied that "in regard to the reception given by the forts of this island, under my commandment, to the vessel *Andrew Doria,* I flatter myself that if my masters exact it I shall be able to give such an account as will be satisfactory." Whereupon the British commander responded that "the unpartial world will judge between us whether these honor shots, answered on purpose by a Dutch fort to a rebellious brigantine, with a flag known to the commander of that fort as the flag of His Majesty's rebellious subjects, is or is not a partiality in favor of those rebels."

The British governor then forwarded



Photograph by Brown Brothers

LAUNCHING THE U. S. S. "MICHIGAN"

In times of peace the launching of a battleship is a gala event, attended by elaborate ceremonies and witnessed by enthusiastic throngs proud of the privilege of seeing the "marriage to the sea" of another man-of-war destined to uphold the honor of America. In times of war, however, no such crowds as attended the *Michigan's* launching are admitted to the shipyards, for an enemy might, with a bomb, undo the labor of years and destroy a formidable unit of our growing sea power.

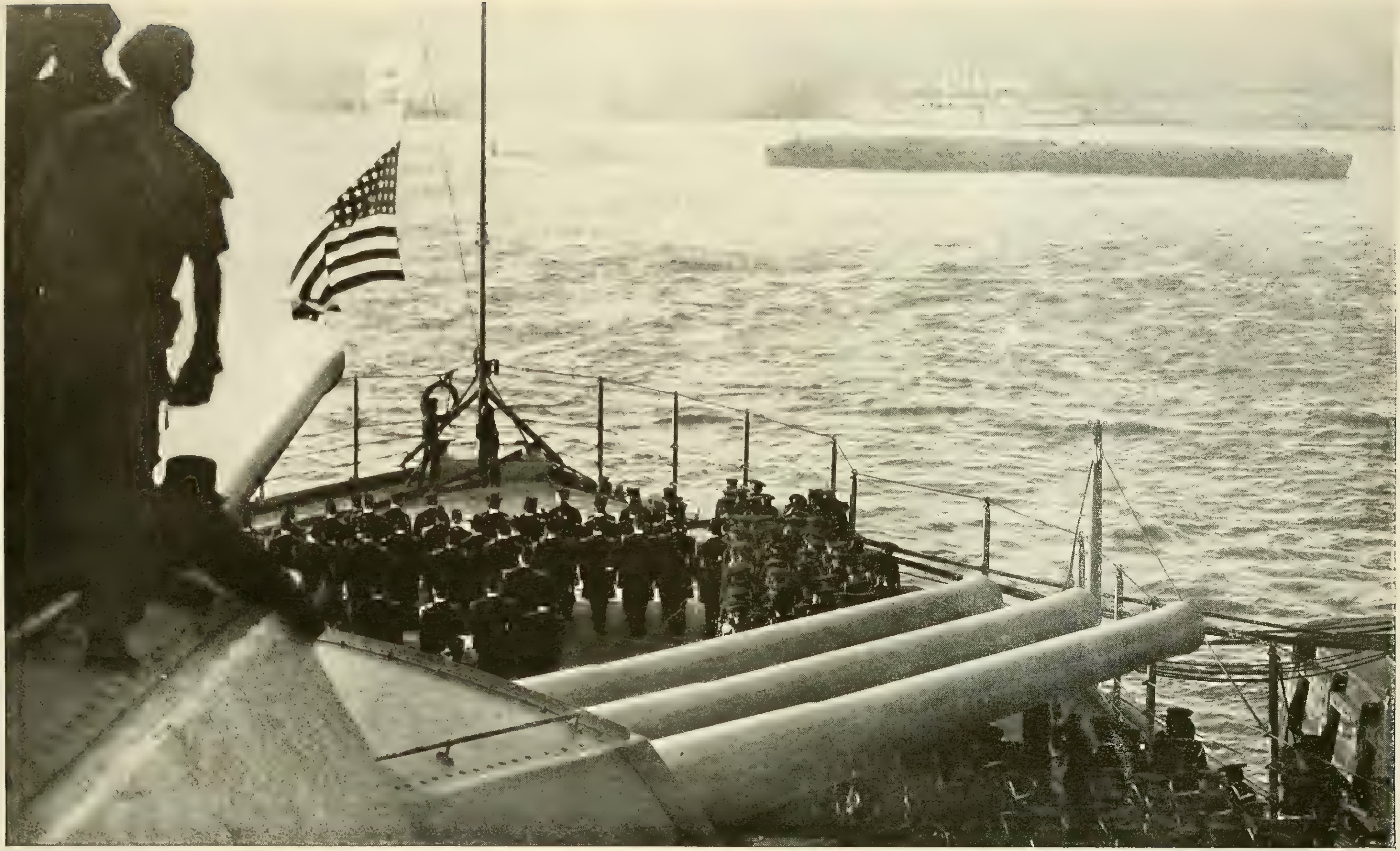
to London a report of the affair, accompanied by affidavits that the brigantine "during the time of the salute and the answer to it, had the flag of the Continental Congress flying." The British Government protested sharply to the States General of the Republic of the Netherlands. The Dutch demurred at the asperity with which England demanded an explanation, but immediately recalled Commander de Graef from St. Eustatius. Thus the first salute to the new ensign was disavowed, although the Holland Republic recognized American independence shortly thereafter.

In the literature of the Revolution frequent reference is found to a "plain striped flag" (404). Official correspondence shows that whenever this flag was used afloat it was as the badge of merchant shipping and privateers and not as the ensign of the regular commissioned vessels of the navy. How long the Grand Union Flag was in use has never been definitely established; but official records of the navy fail to show that any other ensign was used until after the Star Spangled Banner's adoption by Congress.

BIRTHDAY OF THE STARS AND STRIPES

It was nearly one year after the representatives of the United States of America, in General Congress assembled, had pledged their lives, their fortunes, and their sacred honor for the support of the Declaration of Independence that the crosses of St. George and St. Andrew, emblematic of the Mother Country, which had formed the union of the Continental Union flag (364), were discarded and replaced by a union composed of white stars in a blue field, "representing a new constellation" (see flag No. 6, page 310).

The date of the birth of the Stars and Stripes was June 14, 1777, and its creation was proclaimed in a resolution of the



Photograph by Paul Thompson

COMMISSIONING THE U. S. S. "ARIZONA"

The ceremonies aboard a ship in commission when the ensign is raised and lowered are most impressive. At morning "colors" the band plays the national anthem and the flag is hoisted smartly. All officers face the ensign and salute and the guard of the day and the sentries present arms. At sunset "colors" the ensign is lowered slowly and with dignity as the national anthem is played, all officers and enlisted men facing the colors and saluting (see also pages 406-409).

Continental Congress. While the resolution appears in the records without any account of preliminary discussion and without any designation of specific recommendation, the order in which it is incorporated in the business of the day leads to the assumption that it was reported by the Marine Committee, for it is sandwiched in among several naval matters. This portion of the official journal for the day reads:

"*Resolved,* That the Marine Committee be empowered to give such directions respecting the Continental ships of war in the river Delaware as they think proper in case the enemy succeed in their attempts on said river.

"*Resolved,* That the flag of the thirteen United States be thirteen stripes, alternate red and white; that the union be thirteen stars, white in a blue field, representing a new constellation.

"The Council of the State of Massachusetts Bay having represented by letter to the president of Congress that Captain John Roach, some time since appointed to command the Continental ship of war *Ranger,* is a doubtful character and ought not to be entrusted with such a command; therefore

"*Resolved,* That Captain John Roach be suspended until the Navy Board for the eastern department shall have enquired fully into his character and report thereon to the Marine Committee.

"*Resolved,* That Captain John Paul Jones be appointed to command the said ship *Ranger.*"

Thus it would seem that not only was the first flag of the Continental Congress (364) displayed for the first time from a naval vessel, the *Alfred* (see page 288), but that from the navy (in the person of the Marine Committee of the Congress of 1777) the nation also received the Stars and Stripes.

MANY THEORIES AS TO THE ORIGIN OF THE STARS AND STRIPES

There have been advanced almost as many theories as to the genesis of the Stars and Stripes as there were stars in the original ensign. Many hold to the view that the new flag borrowed the stripes from the ensign (364) raised by John Paul Jones on the *Alfred* on December 3, 1775, and the stars from the colonial banner of Rhode Island (396); others maintain that the idea for the flag came from Netherlands, offering in support of this claim the statements of Benjamin Franklin and John Adams, who went to Holland to borrow money for the struggling colonies and who told the Dutch that America had borrowed much from them, including the ideas represented in the flag.

Whatever their origin, there is no persuasive evidence in the official records of the time which would lead to the conclusion that the Stars and Stripes were in use before the resolution of June 14, 1777. It is true, however, that the paintings of Trumbull and Peale do point to its earlier use. But, as to the flags appearing in their paintings, it should be recalled that an anachronism could be readily excused in the case of Trumbull, because he had left the colonies while Washington was before Boston and was abroad for seven years. Peale's picture of Washington crossing the Delaware, with respect to the colors carried, is believed to be a case of "artist's license."

The well known story of Betsy Ross, so-called maker of the Stars and Stripes, is one of the picturesque legends which has grown up around the origin of the flag, but it is one to which few unsentimental historians subscribe. There was, however, a Mrs. Ross, who was a flagmaker by trade, living in Philadelphia at the time of the flag's adoption.

BILLS RENDERED BY A FLAG DESIGNER

A more authentic individual connection with the designing of the flag is to be found in the official records concerning Francis Hopkinson, one of the delegates to Congress from New Jersey, a signer of the Declaration of Independence and a member of the Marine Committee. In November, 1776, Hopkinson was appointed one of a committee of three to "execute the business of the navy under the direction of the Marine Committee." He resigned as a member of the Navy Board in August, 1778, but continued to take an interest in naval affairs, as shown

Photograph by Paul Thompson

THE GUIDON, TROOP F, NEW YORK NATIONAL GUARD

Each troop of cavalry in the American forces carries a guidon—a small flag cut "swallow-tail" (23). It consists of two stripes of equal width, the upper being red, the cavalry colors, with the regimental designation in figures. The letter of the troop, in red, appears on the white stripe. Two guidons are supplied to each troop—a silken banner carried into battle, on campaigns, and upon occasions of ceremony, and a service flag of bunting to be used at all other times.

in the following letter to the Board of Admiralty more than a year later:

"GENTLEMEN: It is with great pleasure I understand my last device of a seal for the Board of Admiralty has met with your Honours' approbation. I have with great readiness upon several occasions exerted my small abilities in this way for the public service, as I flatter myself, to the satisfaction of those I wish to please, viz.,

The flag of the United States of America
4 Devices for the Continental currency
A Seal for the Board of Treasury
Ornaments, Devices and Checks, for the new bills of exchange on Spain and Holland.
A Seal for Ship Papers of the United States
A Seal for the Board of Admiralty
The Borders, Ornaments & Checks for the new Continental currency now in the press, a work of considerable length.
A Great Seal for the United States of America, with a Reverse.

"For these services I have as yet made

no charge, nor received any recompense. I now submit it to your Honours' consideration whether a quarter cask of the public wine will not be a proper and a reasonable reward for these labours of fancy and a suitable encouragement to future exertions of the like nature. . . ."

Subsequently Hopkinson rendered another account to the government for the various designs mentioned above, together with numerous others, the first item on the list being "the great naval flag of the United States." On this occasion he asked for $2,700 compensation. Later he rendered a third account, itemizing the charge for each design, and followed this with an explanatory note which throws an interesting light on the financial status of the nation at that time, for he says: "The charges are made in hard money, to be computed at 50 for one in Continental."

This claim was never paid, a board which passed on accounts reporting that it appeared that Hopkinson "was not the only person consulted on those exhibitions of Fancy, and therefore cannot claim the full merit of them and is not entitled in this respect to the full sum charged." Also the board was of the opinion that "the public is entitled to those little assistances given by gentlemen who enjoy a very considerable salary under Congress without fee or further reward."

ADMIRAL CHESTER'S ACCOUNT OF A COLONIAL FLAG-BEE

Rear Admiral Colby M. Chester, U. S. Navy, has suggested that John Paul Jones may have had a share in the design. He says:

"This young officer of the Continental Navy had just returned from a successful cruise at sea in command of war ships, during which he had captured a number of the enemy's vessels, and was in Philadelphia at the time Congress was considering the question of a national flag, as a member of a Board of Advisers to the Naval Committee of the House of Delegates upon matters relating to the country's sea forces, of which the question of a suitable distinguishing mark to be worn by war vessels was one of the most important.

"Possessing a most attractive personality, Paul Jones was lionized by the ladies of the city and patronized by some of the leading delegates to the Convention, who called upon him to advise the legislators regarding the design for the flag; he thus had much to do with securing the passage of the act of Congress fixing its characteristics.

"Soon after this event took place, Captain Jones received his appointment to command the *Ranger*, one of the Continental frigates about to proceed abroad, and with the act of Congress containing his commission in his hands he proceeded with all haste to Portsmouth, New Hampshire, in which port the *Ranger* was fitted out. Here he was received with more distinction, even, than at Philadelphia, for Portsmouth being one of the principal seaports of the country, its inhabitants were more interested in ships which were to fly the flag and the men who were to man them than were those living in the capital of the colonies.

"At Portsmouth Paul Jones attracted about him a bevy of girls who formed a so-called "flag-bee," who with much patriotic enthusiasm and many heart thrills wrought out of their own and their mothers' gowns a beautiful Star Spangled Banner, which was thrown to the breeze in Portsmouth Harbor on July 4th, 1777, less than three weeks after Congress had so authorized."

NEW ENSIGN'S FIRST ACTION AT SEA

The story of the first time in history that the Stars and Stripes went into action at sea is told in the picturesque language of the American officer who commanded the ship which displayed the new ensign—Captain Thomas Thompson. In command of the *Raleigh* and the *Alfred*, Captain Thompson sailed for France from Portsmouth, and on September 2, 1777, captured the slow *Nancy* of the Windward Island fleet, which had outsailed her. Having possessed himself of the *Nancy's* signal book, Thompson, on sighting the fleet two days later, determined to attack with the *Alfred*, but as

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THE FRENCH ARMY'S FIRST SALUTE TO THE STARS AND STRIPES ON FRENCH SOIL

Section V-14 of the American Ambulance Corps, a team of Leland Stanford Jr. University students, had the honor of bearing the first American flag officially sent from the United States to the French front.

this vessel was a poor sailer and the wind had changed, the *Raleigh* went in alone, passing many merchant ships of the convoy. When within pistol-shot of the commodore's ship, recognized by means of the signal book, Thompson records:

"We up sails, out guns, hoisted Continental colours and bid them strike to the Thirteen United States. Sudden surprise threw them into confusion and their sails flew all aback, upon which we complimented them with a gun for each State, a whole broadside into their hull. Our second broadside was aimed at their rigging, which had its desired effect. In about a quarter of an hour all hands quitted quarters on board the British man-of-war; we cleared the decks totally. . . . Had not the wind favored him and we drifted leeward, he could not have fetched us and I should certainly have sunk the ship."

Thus occurred the baptism of fire at sea of the new flag, at the hour of sunset on September 4, 1777.

THE IMPROVISED OLD GLORY OF FORT STANWIX

Just one month previously (August 3) the new flag had been under fire on land, at Fort Schuyler, which stood on the site of the present city of Rome, N. Y. On August 2 a force composed of British and Indians attacked the fort, which was defended by Col. Peter Gansevoort with some 600 men. In the afternoon reinforcements—200 men of the Ninth Massachusetts Regiment under Lieutenant Colonel Mellon—arrived by way of the Mohawk River from Albany, bringing ammunition and supplies.

They also brought with them newspaper accounts of the newly enacted flag resolution, and immediately the fort was ransacked for material with which to make the new national emblem. The ammunition shirts of the soldiers furnished the white stripes; a red petticoat belonging to the wife of one of the men supplied the red stripes, and Captain Abraham Swartwout's blue cloth cloak was requisitioned to provide the blue field of the union.

In Avery's History it is set forth that the flag was made on Sunday morning and was displayed the same afternoon from a flagstaff raised on the bastion nearest the enemy. Then the drummer beat the assembly and the adjutant general read to the defenders the congressional resolution "particularizing the insignia of the flag of the new republic."

There are vouchers extant showing that the Continental treasury reimbursed Captain Swartwout for the loss of his cloak, but the red petticoat remained a gift of the humble soldier's wife to the first of the Stars and Stripes to undergo fire.

FIRST SALUTE TO THE STARS AND STRIPES

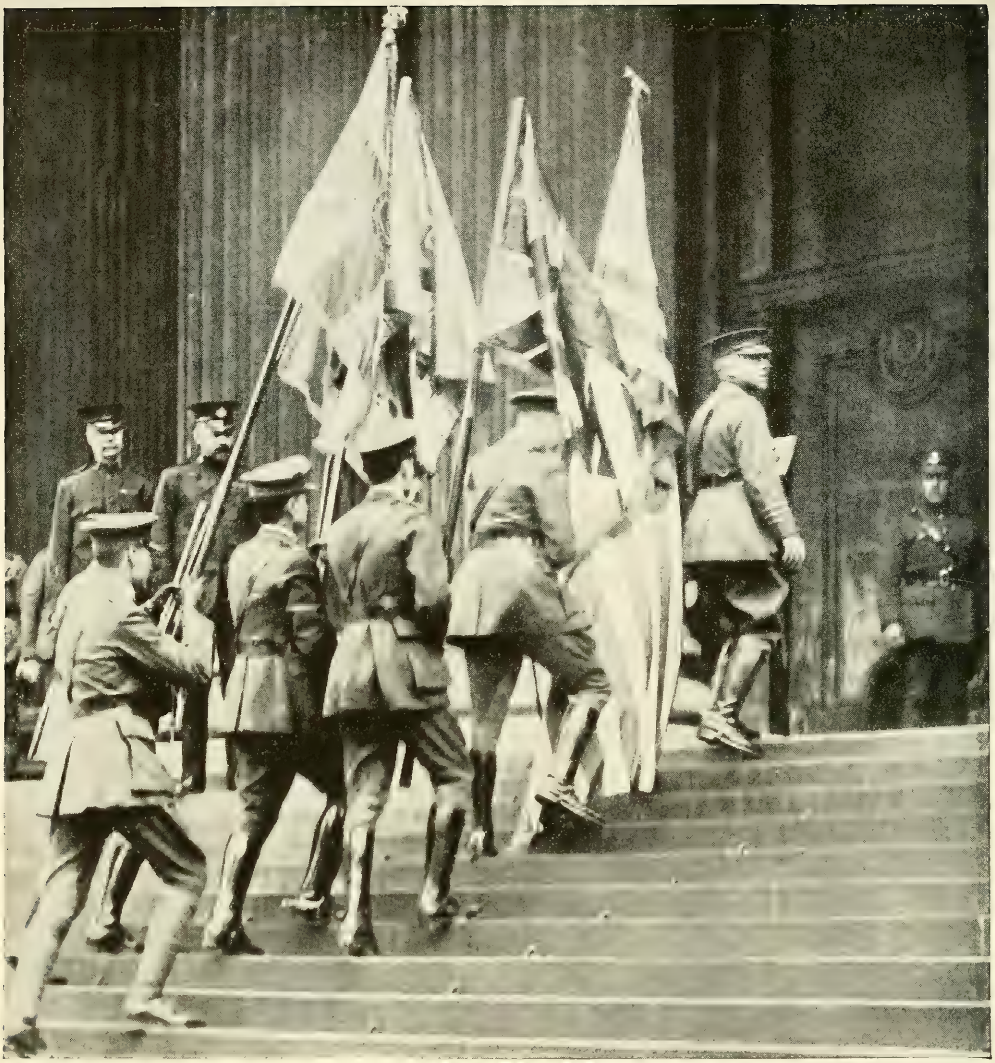
All Americans recall with especial pleasure and pride that the first official salute to the Stars and Stripes was accorded by that nation to which, more than to any other, the United States owes its existence—France, the blood-ally of our darkest days, now, in turn, valiantly succored by us in her hour of sorest need.

Again John Paul Jones figures as the chief actor in this flag episode. He sailed from Portsmouth on November 1, 1777, as a bearer to France of the glad tidings of the surrender of Burgoyne. Here is the officer's own account, contained in a report to the Marine Committee of Congress, of how the salute was obtained:

"I am happy in having it in my power to congratulate you on my having seen the American flag for the first time recognized in the fullest and completest manner by the flag of France. I was off their bay (Quiberon) that day, the 13th (of February), and sent my boat in the next day to know if the Admiral (Admiral La Motte Picquet) would return my salute. He answered that he would return me, as a senior American Continental officer in Europe, the same salute which he was authorized by his court to return to an Admiral of Holland, or of any other republic, which was four guns less than the salute given. I hesitated at this, for I had demanded gun for gun; therefore I anchored in the entrance of the bay, at a distance from the French fleet, but after a very particular inquiry on the 14th, finding that he had really told the truth, I was induced to accept his offer, the more so as it was an acknowledgment of American independence. The wind being contrary and blowing hard, it was after sunset before the *Ranger* got near enough to salute La Motte Picquet with thirteen guns, which he returned with nine. However, to put the matter beyond doubt, I did not suffer the *Independence* to salute until the next morning, when I sent word to the Admiral that I should sail through his fleet in the brig and would salute him in open day. He was exceedingly pleased and returned the compliment with nine guns" (see page 290).

THE SIGNIFICANCE OF OUR COLORS

America's most gifted poets and orators have vied with one another in setting forth the significance of the red, the white, and the blue of the Star Spangled Banner. In the words of Henry Ward Beecher: "A thoughtful mind, when it sees a nation's flag, sees not the flag, but the nation itself. And whatever may be its symbols, its insignia, he reads chiefly in the flag the government, the principles, the truths, the history, that belong to the nation that sets it forth. The American flag has been a symbol of Liberty, and men rejoiced in it.



Photograph by Central News Photo Service

FLAGS WHICH SIGNALIZED AMERICA'S ENTRANCE INTO THE WORLD CONFLICT BEING BORNE INTO ST. PAUL'S CATHEDRAL BY THE FIRST AMERICAN TROOPS TO REACH LONDON AFTER THE DECLARATION OF WAR WITH GERMANY

These Stars and Stripes were blessed in the great English shrine and are to be preserved for all time, together with those of our Allies, whose national emblems, like our own, are waving over the hosts fighting for the world's liberty (see page 286).

"The stars upon it were like the bright morning stars of God, and the stripes upon it were beams of morning light. As at early dawn the stars shine forth even while it grows light, and then as the sun advances that light breaks into banks and streaming lines of color, the glowing red and intense white striving together, and ribbing the horizon with bars effulgent, so, on the American flag, stars and beams of many-colored light shine out together. And wherever this flag comes and men behold it they see in its sacred emblazonry no embattled castles or insignia of imperial authority; they see the symbols of light. It is the banner of Dawn."

BIBLICAL ORIGIN OF THE RED, WHITE, AND BLUE

Charles W. Stewart, superintendent of naval records and library of the United

States Navy Department, to whom the GEOGRAPHIC is indebted for helpful advice and criticism in the compilation of the data published in this number of the magazine, advances the following theory of the origin of the colors employed in the national ensign:

"The flag may trace its ancestry back to Mount Sinai, whence the Lord gave to Moses the Ten Commandments and the book of the law, which testify of God's will and man's duty; and were deposited in the Ark of the Covenant within the Tabernacle, whose curtains were blue, purple, scarlet, and fine-twined linen.

"Before the ark stood the table of shew-bread, with its cloth of blue, scarlet, and white. These colors of the Jewish Church were taken over by the early Western Church for its own and given to all the nations of western Europe for their flags. When the United States chose their flag it was of the colors of old, but new in arrangement and design, and they called it 'The Stars and Stripes.'

"Our flag is of the colors red, white, and blue. Red is for courage, zeal, fervency; white is for purity, cleanness of life, and rectitude of conduct; blue is for loyalty, devotion, friendship, justice, and truth. The star is an ancient symbol of India, Persia, Egypt, and signifies dominion and sovereignty."

THE CALL OF THE FLAG

Hon. Frederick C. Hicks, in the House of Representatives on Flag Day, June 14, 1917, thus portrayed the meaning of the national ensign:

"The flag of America does more than proclaim mere power or acclaim a great and glorious history. Its folds wave a benediction to the yesterdays of accomplishment and beckon the tomorrows of progress with hope and confidence; it heralds the noble purposes of a mighty people and carries a message of hope and inspiration to all mankind. Its glowing splendor appeals to us to demand international justice and arbitration; it commands us to self-sacrifice and to universal obligation of service, which alone can maintain equality of rights and fullness of opportunity in our republic.

"Its stars and its stripes voice the spirit of America calling to a nation of indomitable courage and infinite possibilities to live the tenets of Christianity, to teach the gospel of work and usefulness, to advance education, to demand purity of thought and action in public life, and to protect the liberties of free government from the aggressions of despotic power. This is the call of the flag of the Union in this hour of crisis and turmoil, when civilization and the laws of nations and of humanity are being engulfed in the maelstrom of death and destruction."

THE EMBLEM OF OUR UNITY

President Wilson in a Flag Day address said:

"This flag, which we honor and under which we serve, is the emblem of our unity, our power, our thought and purpose as a nation. It has no other character than that which we give it from generation to generation. The choices are ours. It floats in majestic silence above the hosts that execute those choices, whether in peace or in war. And yet, though silent, it speaks to us—speaks to us of the past, of the men and women who went before us, and of the records they wrote upon it.

"We celebrate the day of its birth; and from its birth until now it has witnessed a great history, has floated on high the symbol of great events, of a great plan of life worked out by a great people. We are about to carry it into battle, to lift it where it will draw the fire of our enemies. We are about to bid thousands, hundreds of thousands, it may be millions, of our men—the young, the strong, the capable men of the nation—to go forth and die beneath it on fields of blood far away. . . .

"Woe be to the man, or group of men, that seeks to stand in our way in this day of high resolution, when every principle we hold dearest is to be vindicated and made secure for the salvation of the nations. We are ready to plead at the bar of history, and our flag shall wear a new luster. Once more we shall make good with our lives and fortunes the great faith to which we were born, and a new glory shall shine in the face of our people."

THE MAKERS OF THE FLAG*

By Franklin K. Lane, Secretary of the Interior

THIS morning, as I passed into the Land Office, The Flag dropped me a most cordial salutation, and from its rippling folds I heard it say: "Good morning, Mr. Flag Maker."

"I beg your pardon, Old Glory," I said, "aren't you mistaken? I am not the President of the United States, nor a member of Congress, nor even a general in the army. I am only a government clerk."

"I greet you again, Mr. Flag Maker," replied the gay voice; "I know you well. You are the man who worked in the swelter of yesterday straightening out the tangle of that farmer's homestead in Idaho, or perhaps you found the mistake in that Indian contract in Oklahoma, or helped to clear that patent for the hopeful inventor in New York, or pushed the opening of that new ditch in Colorado, or made that mine in Illinois more safe, or brought relief to the old soldier in Wyoming. No matter; whichever one of these beneficent individuals you may happen to be, I give you greeting, Mr. Flag Maker."

I was about to pass on, when The Flag stopped me with these words:

"Yesterday the President spoke a word that made happier the future of ten million peons in Mexico; but that act looms no larger on the flag than the struggle which the boy in Georgia is making to win the Corn Club prize this summer.

"Yesterday the Congress spoke a word which will open the door of Alaska; but a mother in Michigan worked from sunrise until far into the night to give her boy an education. She, too, is making the flag.

"Yesterday we made a new law to prevent financial panics, and yesterday, maybe, a school teacher in Ohio taught his first letters to a boy who will one day write a song that will give cheer to the millions of our race. We are all making the flag."

"But," I said impatiently, "these people were only working!"

Then came a great shout from The Flag:

"The work that we do is the making of the flag.

"I am not the flag; not at all. I am but its shadow.

"I am whatever you make me; nothing more.

"I am your belief in yourself, your dream of what a people may become.

"I live a changing life, a life of moods and passions, of heart-breaks and tired muscles.

"Sometimes I am strong with pride, when men do an honest work, fitting the rails together truly.

"Sometimes I droop, for then purpose has gone from me, and cynically I play the coward.

"Sometimes I am loud, garish, and full of that ego that blasts judgment.

"But always I am all that you hope to be and have the courage to try for.

"I am song and fear, struggle and panic, and ennobling hope.

"I am the day's work of the weakest man and the largest dream of the most daring.

"I am the Constitution and the courts, statutes and the statute-makers, soldier and dreadnaught, drayman and street sweep, cook, counselor, and clerk.

"I am the battle of yesterday and the mistake of tomorrow.

"I am the mystery of the men who do without knowing why.

"I am the clutch of an idea and the reasoned purpose of resolution.

"I am no more than what you believe me to be and I am all that you believe I can be.

"I am what you make me; nothing more.

"I swing before your eyes as a bright gleam of color, a symbol of yourself, the pictured suggestion of that big thing which makes this nation. My stars and my stripes are your dream and your labors. They are bright with cheer, brilliant with courage, firm with faith, because you have made them so out of your hearts; for you are the makers of the flag, and it is well that you glory in the making."

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*Delivered on Flag Day, 1914, before the employees of the Department of the Interior, Washington, D. C.

THE FLAGS OF OUR ARMY, NAVY, AND GOVERNMENT DEPARTMENTS

For illustrations see the corresponding numbers on the colored flags, pages 310 and onward

1. United States Flag and Ensign.—On July 4, 1912, following the admission of Arizona and New Mexico into the Union, two stars were added to the Stars and Stripes, giving the banner its present composition of 48 stars, representing the States of the Union, and 13 stripes, commemorative of the Thirteen Original Colonies which achieved the nation's independence. (See pages 286-304 for the history of the American flag; pages 303-304, 404-413 for the uses of the flag, and descriptive text under flags 6, 7, 8, 361, 362, 364, and 367 for the evolution and development of the Star Spangled Banner.)

2. President's Flag.—When the President visits a vessel of the United States, the President's flag is broken at the main the moment he reaches the deck and is kept flying as long as he is on board. If the vessel can do so, a national salute of 21 guns is fired as soon as possible after his arrival on board. Upon departure, another salute of 21 guns is fired, the President's flag being lowered with the last gun of the salute. When the President is embarked in a boat he usually directs that his flag be displayed from the staff in the bow of his barge (see page 283). When he passes in a boat flying his flag, vessels of the navy parade the full guard, four ruffles are given on the drum, four flourishes are sounded on the bugle, the National Anthem is played by the band, and officers and men salute (see page 282). When the President is embarked in a ship flying his flag, all saluting ships, on meeting her at sea or elsewhere, and all naval batteries, fire a national salute on passing (see page 324).

Previous to the present order there were two designs displayed on flags and on colors to be used in the presence of the Commander-in-Chief of the army and the navy. The navy design was of an earlier date than that of the army, and consisted of the coat-of-arms of the United States, as shown in the Great Seal (3), upon a blue ground. This happened to be almost identical with the infantry colors (see 11). The President's colors were designed to be distinctive from the infantry colors, and consisted of a blue ground with a large crimson star, outlined heavily with white. Within the star was to be seen the coat-of-arms of the United States, and outside the star within its angles were powdered small stars to the number of the States in the Union. The double display of flags and colors at the Grand Army Review in 1915 caused considerable comment, and as a result the suggestion was made to the President that the navy flag might fittingly be made distinctive from the infantry colors by the addition of four stars—one in each corner. The flags of an Admiral and of a General bear four stars, as a sign of command. The President approved of the idea, but directed that the coat-of-arms, as shown on the President's seal (see 5), be used upon the President's personal flag and colors.

3. The Great Seal of the United States.—The Great Seal was adopted by the Continental Congress June 20, 1782.

Arms.—Paleways (*perpendicular stripes or divisions*) of thirteen pieces, argent (*white*) and gules (*red*); a chief (*upper part of the escutcheon*), occupying one-third of the whole azure (*blue*); the escutcheon on the breast of the American eagle displayed proper (*represented in its natural colors*), holding in his dexter (*right*) talon an olive branch, and in his sinister (*left*) a bundle of thirteen arrows, all proper (*natural colors*), and in his beak a scroll, inscribed with this motto, *"E Pluribus Unum"* (*Out of Many, One*).

Crest.—Over the head of the eagle, which appears above the escutcheon, a glory (*circle of light*), or (*gold*), breaking through a cloud, proper, and surrounding thirteen stars forming a constellation, argent, on an azure field.

Reverse.—A pyramid unfinished. In the zenith an eye in a triangle, surrounded with a glory, proper. Over the eye these words, *"Annuit Coeptis"* (*He [God] has smiled on our undertakings*). On the base of the pyramid the numerical letters MDCCLXXVI, and underneath the following motto, *"Novus Ordo Seclorum"* (*A New Order of Ages*).

Accompanying the report, and adopted by Congress, was the following:

The escutcheon is composed of the chief and pale, the two most honorable ordinaries (*divisions*). The pieces, paly (*equal in width and of two colors, alternating*), represent the several States all joined in one solid, compact entire, supporting a chief, which unites the whole and represents Congress. The motto alludes to this union. The pales in the arms are kept closely united by the chief, and the chief depends on that union and the strength resulting from it for its support, to denote the confederacy of the United States of America and the preservation of their union through Congress.

The colors of the pales are those used in the flag of the United States of America; white signifies purity and innocence; red, hardiness and valor; and blue, the color of the chief, signifies vigilant perseverance and justice.

The olive branch and arrows denote the power of peace and war, which is exclusively vested in Congress. The constellation denotes a new State taking its place and rank among other sovereign powers. The escutcheon is borne on the breast of an American eagle without any other supporters, to denote that the United States ought to rely on their own virtue.

Reverse.—The pyramid signifies strength and duration. The eye over it and the motto allude to the many signal interpositions of Providence in favor of the American cause. The date underneath is that of the Declaration of Independence, and the words under it signify the beginning of the new American era, which commences from that date.

The reverse of the seal has never been cut and has been allowed to go unused officially to the present day.

USES OF THE GREAT SEAL

When the Continental Congress made the obverse of the great seal of the national arms it intended that the device should pass into common use among the people, as the flag has done, and like the flag, the arms at first met with general approval, which soon gave place to an acceptance of it as an emblem of the power and sovereignty of the United States.

The seal itself has, of course, a very limited use, which is strictly guarded by law. The Secretary of State is its custodian, but even he has no authority to affix it to any paper that does not bear the President's signature.

At the present time the seal of the United States is affixed to the commissions of all Cabinet officers and diplomatic and consular officers who are nominated by the President and confirmed by the Senate; all ceremonious communications from the President to the heads of foreign governments; all treaties, conventions, and formal agreements of the President with foreign powers; all proclamations by the President; all exequaturs to foreign consular officers in the United States who are appointed by the heads of the governments which they represent; to warrants by the President to receive persons surrendered by foreign governments under extradition treaties; and to all miscellaneous commissions of civil officers appointed by the President, by and with the advice and consent of the Senate, whose appointments are not now especially directed by law to be signed under a different seal.

4. JACK.—Vessels at anchor fly the union jack from the jackstaff (the staff at the bow) from morning to evening colors. The jack hoisted at the fore mast is a signal for a pilot (220). A gun may be fired to call attention to it. Hoisted at the mizzen mast or at a yard arm it denotes that a general court martial or a court of inquiry is in session.

When a diplomatic official of the United States of and above the rank of charge d'affaires pays an official visit afloat in a boat of the navy, a union jack of a suitable size is carried on a staff in the bow. When the Naval Governor of Guam, Tutuila, or the Virgin Islands of the United States embarks in a boat, within the limits of his government, for the purpose of paying visits of ceremony in his official capacity as Governor, a union jack of suitable size is carried on a staff in the bow of the boat. The union jack at the main was the flag of the Secretary of the Navy from 1869 to July 4, 1874, when the present flag (49) came into use.

When worn out, jacks are surveyed and burned in the same manner as ensigns. The proper size of jack to display with an ensign is that corresponding in dimension to the union of that ensign (see drawing, page 312). Yachts may display the union jack while at anchor at the jackstaff from 8 a. m. to sunset, when wash clothes are not triced up.

5. SEAL OF THE PRESIDENT.—This is the personal seal of the President, and the press from which it is made has been in use for many years. The device is to be seen in the President's flag (2), in bronze, in the floor of the entrance corridor of the White House and in the favorite stick-pin of the President.

6. OUR FIRST STARS AND STRIPES, adopted by act of Congress June 14, 1777 (see page 297). In its resolution Congress did not direct a specific arrangement of the thirteen stars. In the navy it became customary to place the stars so as to form the crosses of St. George and St. Andrew, an arrangement distinctly illustrated in Rhode Island's banner (396).

THE FLAG THAT INSPIRED THE "STAR SPANGLED BANNER"

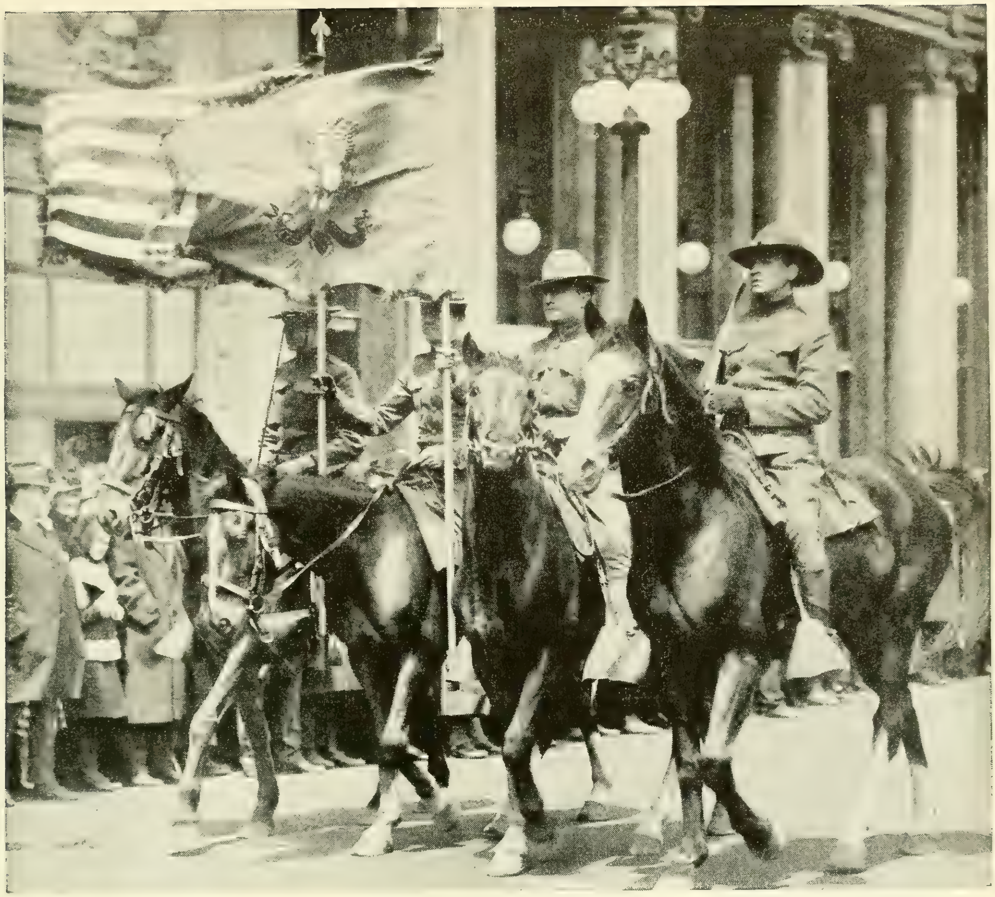
7. THE FLAG WITH 15 STRIPES AND 15 STARS. — When Vermont entered the Union (March 4, 1791), followed by Kentucky (June 1, 1792), it was felt that the new States should have the same representation in the design of the flag that the original thirteen States possessed, and Congress accordingly passed the following act, which was approved by President Washington on January 13, 1794:

"*Be it enacted, etc.*, That from and after the first day of May, one thousand seven hundred and ninety-five, the flag of the United States be fifteen stripes, alternate red and white, and that the Union be fifteen stars, white in a blue field."

In this flag the stars were arranged in three parallel rows of five each, with the blue field resting on the fifth red stripe. This was the national flag for twenty-three years. It was in use during the war of 1812, and, in September, 1814, waving over Fort McHenry, it inspired Francis Scott Key to write the "Star Spangled Banner." Key was aide to General Smith at Baltimore and had gone aboard H. M. S. *Minden* in the harbor to arrange an exchange of prisoners. While being detained pending the bombardment on the morning of September 14, 1814, he wrote the anthem.

The arrangement of the stars in the Fort McHenry flag is the navy arrangement, that particular flag of immense size having been specially made by Mrs. Mary Pickerskill under the direction of Commodore Barry and General Striker. The flag is now in the National Museum at Washington (see page 289). The missing star is said to have been cut out and sent to President Lincoln.

This is the flag that encouraged our brave lads in our war against the Barbary pirates. It was the first ensign to be hoisted over a fort of the Old World. On April 27, 1805, after a



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GUARD TO THE STANDARD

On silver bands, encircling the lance from which the regimental standard floats, are engraved the names and dates of the battles in which that regiment has played its heroic part. Each standard, therefore, epitomizes the glorious past of its command, and the men over whom it waves would gladly give their lives rather than have these shining symbols of victory tarnished by defeat (see page 308).

bombardment of the batteries and the town of Derne, Tripoli, by the *Hornet*, *Nautilus*, and *Argus*, the landing party of marines and bluejackets stormed the principal works, and Lieutenant O'Bannon of the marines and Midshipman Mann hauled down the Tripolitan flag and hoisted the fifteen stars and fifteen stripes in its place.

It was our ensign in the Battle of Lake Erie (see 366) and was first carried in a man-of-war by Captain Porter in the *Essex*, around Cape of Good Hope, August, 1800, and by Commodore Porter in the *Essex* around Cape Horn on his famous cruise in 1813. It was the flag flown by Jackson at New Orleans.

8. The requirement that a new stripe be added to the flag for each new State, however, soon proved embarrassing, with the result that U. S. Congress on April 4, 1818, decided to return to the original design of thirteen stripes, and passed the following law:

"SEC. 1. *Be it enacted, etc.*, That from and after after the fourth day of July next the flag of the United States be thirteen horizontal stripes, alternate red and white; that the union have twenty stars, white, on a blue field.

"SEC. 2. *And be it further enacted,* That on the admission of every new State into the Union one star be added to the union of the flag, and that such addition shall take effect on the 4th of July next succeeding such admission."

Twenty-eight States having been admitted since the enactment of this law, our flag now contains 48 stars. There have been numerous laws enacted concerning the flag since that time, but none of them has departed from the fundamental principles of the law of 1818.

It is interesting to note that the army for many decades did not carry the Stars and Stripes in battle, though it was used as a garrison flag. The land forces carried what was known as national colors, or standards, of blue, with the coat-of-arms of the United States, comprising an eagle surmounted by a number of stars, emblazoned thereon, with the designation of the body of troops (see 22).

In 1834 War Department regulations gave the artillery the right to carry the Stars and Stripes. The infantry still used the design of 22 until 1841, and the cavalry until 1887, when that branch of the army was ordered to carry the Stars and Stripes. The history of the flag indicates that the Stars and Stripes were not officially carried by troops in battle until the period of the Mexican War, 1846-1847.

THE ARMY FLAGS

The flags used by the United States Army to designate its several branches are divided into two classes—colors and standards. The colors are used by unmounted troops and the standards by mounted forces. The principal difference between them is that the standards are smaller and have no cords and tassels, because large flags and cords and tassels would hinder the movements of the mounted standard-bearer.

Every regiment of engineers, artillery, infantry, cavalry, etc., is supplied with one silk national standard or color (17) and one silk regimental standard or color (11, 13, 15, 18, etc.).

The silk national and regimental colors or standards are carried in battle, campaign, and on all occasions of ceremony at regimental headquarters in which two or more companies of the regiment participate.

The official designation of the regiment is engraved on a silver band placed on the pike or lance.

When not in use, colors and standards are kept in their waterproof cases.

In garrison the standards or colors, when not in use, are kept in the office or quarters of the colonel and are escorted thereto and therefrom by the color guard. In camp the colors or standards, when not in use, are displayed in front of the colonel's tent, the national color or standard on the right. From reveille to retreat, when the weather permits, they are uncased; from retreat to reveille and during inclement weather they are cased.

In action the position of the standards or colors will be indicated by the colonel, who may, through their display, inspire enthusiasm and maintain the morale. He may, however, hold them back when they might indicate to the enemy the direction of the main attack, betray the position of the main body, or tend to commit the regiment to defensive action. In the presence of the enemy and during the "approach" the standards are carried cased, ready to be instantly broken out if their inspiration is required.

In addition to the handsome silk flags, a national color or standard made of bunting or other suitable material, but in all other respects similar to the silk national color or standard, is furnished to each battalion or squadron of each regiment.

These colors and standards are for use at drills and on marches, and on all service other than battles, campaigns, and occasions of ceremony. Not more than one national color or standard is carried when the regiment or any part of it is assembled.

The colors of a regiment will not be placed in mourning or draped, except when ordered from the War Department. Two streamers of crape 7 feet long and about 12 inches wide attached to the ferrule below the spearhead will be used for the purpose.

The names and dates of battles in which regiments or separate battalions have participated are engraved on silver bands and placed on the pike of the colors or lance of the standard of the regiment or separate battalion, as the case may be. For this purpose only the names of those battles which conform to the following definition are considered, viz: Battles are important engagements between independent armies in their own theaters of war, in contradistinction to conflicts in which but a small portion of the opposing forces are actually engaged, the latter being called, according to their nature, affairs, combats, skirmishes, and the like.

The names and dates of battles which it is proposed to have engraved on the silver bands are submitted to the War Department, which decides each case on its merits.

At least two companies, troops, or batteries of a regiment or separate battalion must have participated in a battle in order that the name of the battle may be placed on its colors or standards.

A company, troop, or battery does not receive credit for having participated in a battle unless at least one-half of its actual strength was engaged.

The Adjutant General of the Army furnishes each company, troop, and battery with a suitably engrossed certificate setting forth the names of all battles, engagements, and minor affairs in which said company, troop, or battery participated, with the dates thereof, and showing, as nearly as may be, the organizations of the United States troops engaged therein, and against what enemy. This certificate states that the names and dates of these battles are engraved on silver bands on the pike of the colors of the regiment or battalion, or the lance of the standard of the regiment or battalion, as the case may be, excepting in the case of companies which have no regimental or battalion organization.

This certificate is suitably framed and kept posted in the barracks of the company, troop, or battery.

Whenever in the opinion of a commanding officer the condition of any silk color, standard, or guidon in the possession of his command has become unserviceable, the same is forwarded to the depot quartermaster, Philadelphia, Pa., for repair, if practicable. Should it be found that its condition does not warrant the expenditure of funds that may be involved, the depot quartermaster returns to the officer from whom received and furnishes a new color, standard, or guidon.

Upon receipt of new silk colors, standards, or guidons, commanding officers cause those replaced to be numbered and retained by the organization to which they belong as mementos of service, a synopsis of which, bearing the same number, will be filed with the records of the organization.

9. The President's colors in design are similar to the President's flag afloat (2), but are made of silk, with heavy silk embroidery and bordered with gold and silver fringe, with red, white, and blue cord and tassels, and a gold eagle on the pike. The colors are displayed when the President is in the presence of troops as commander-in-chief.

10. The colors of the Secretary of War are used in the same manner as the President's colors when the war minister is the ranking official in the presence of troops.

11. The infantry colors are carried by the several regiments, each with its own particular designation on the scroll below the eagle.

12. The Assistant Secretary of War's colors are used in the same way as those of the Secretary of War when he is the ranking official present.

13. The colors of the coast artillery corps have a red field, where those of the infantry have blue; otherwise they are the same as the infantry colors, except for the yellow scroll and the crossed cannon.

14. The Chief of Staff has colors with a field made up of a red and a white triangle, the red triangle having its base on the staff. On the center is the familiar spread eagle of the national coat-of-arms imposed upon a large white star; a small white star on the red and a red star on the white complete the design, except for golden fringe, cord, and tassels. This flag is flown when the Chief of Staff is in the presence of troops the ranking officer.

15. The engineer colors are red, the lettered scroll being white, bearing above it the engineer device, a castellated fort.

16. The colors of the corps of cadets dispenses with the familiar red and blue for a field, gray being substituted therefor. Instead of the coat-of-arms there is an escutcheon bearing the national colors, with a cap of Mars on the field, and surmounted by an eagle. The cadet colors are fringed with yellow and black and gray.

17. The national standard used by mounted troops and the national colors used by unmounted troops are exactly alike, except that the colors are larger and have cords and tassels, as on the President's colors.

18. The cavalry standard has a field of yellow and, except in size, is otherwise like the infantry colors, without cords or tassels.

19. The field artillery standard is like the coast artillery colors, except that the crossed cannon between the eagle and the scroll are omitted.

20. The mounted engineers' standard has the castellated fort to distinguish it.

21. The standard of the United States Signal Corps is distinguished by the wig-wag flags between the eagle and the lettered scroll.

22. This is the national standard as used by our light artillery in the War of 1812. The artillery did not carry the Stars and Stripes until 1834, the infantry until 1841, and the cavalry until 1887.

23. This is the guidon used by each troop of cavalry. The figure shows the regiment and the letter the troop.

24. The guidon of the field artillery is distinguished by crossed cannons.

25. The word "Mounted" above the castellated fort proclaims the mounted engineers' guidon.

26. The guidon of the mounted engineer section does not have the panel bearing the word "Mounted."

27. The signal corps guidon bears the wig-wag flags.

28. The aëro squadron's guidon duplicates that of the signal corps, except that the flying eagle is added.

29. Telegraph company guidons show the wig-wag flags with a thunderbolt.

30. This triangular pennant serves as the guidon of the motor-truck company.

31. The field hospital guidon bears the caduceus of Hermes given him by Apollo and supposed to be a magic wand which exercises influence over living and dead. This guidon is lettered "F. H."

32. Ambulance companies have a guidon like that of the field hospital service, except that the lettering is different.

33. The field hospital flag is the familiar red cross on the white field. A rectangle below shows the night signal.

34. The guidon of the cavalry and light artillery during the Civil War. Prior to that war the cavalry used 23, and on the adoption of 34 General Sheridan made 23 his personal colors. Upon becoming Secretary of War he retired 34 from use and restored 23 as the guidon of the cavalry as it had been prior to the great conflict.

35. When a lieutenant general of the army is in an automobile or aboard a boat officially the three-starred flag of command is shown.

36. The auto and boat flag of a major general is like that of the lieutenant general, except that it has two stars instead of three.

37. The brigadier general's automobile and boat flag bears the one star of the brigadier's rank.

38. The chief umpire in military maneuvers in times of peace bears a flag with a saltire cross upon it, like that of St. Andrew.

39. The flag of an artillery district commander bears crossed cannons with a shell imposed upon the intersection.

40. The flag of a post commander carried in the bow of a boat in which he is embarked officially is a pennant with thirteen stars in the blue, with a red fly.

41. The ambulance flag is a white field and a red cross. The night signal is shown below the flag.

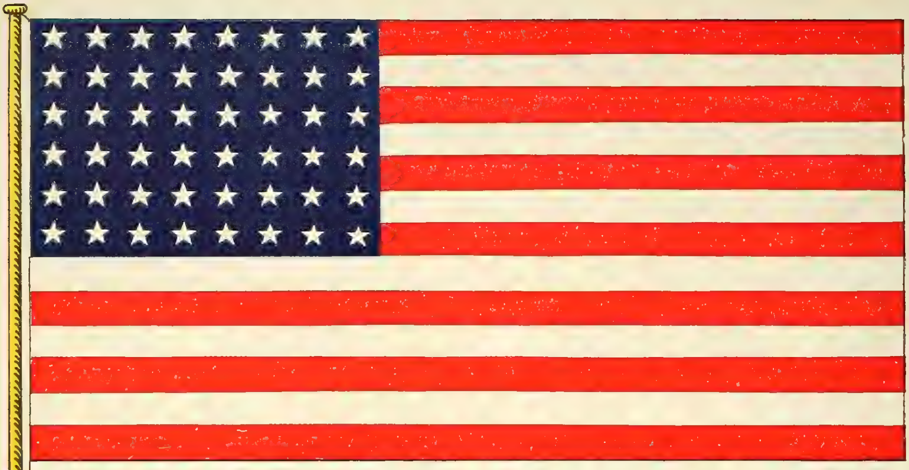
42. The ammunition trains of the United States Army display a triangular pennant, which is accorded the right of way in time of battle.

43. The camp colors of an army are 18 by 20 inches and displayed on an ash pole 8 feet long and 1⅛ inches diameter.

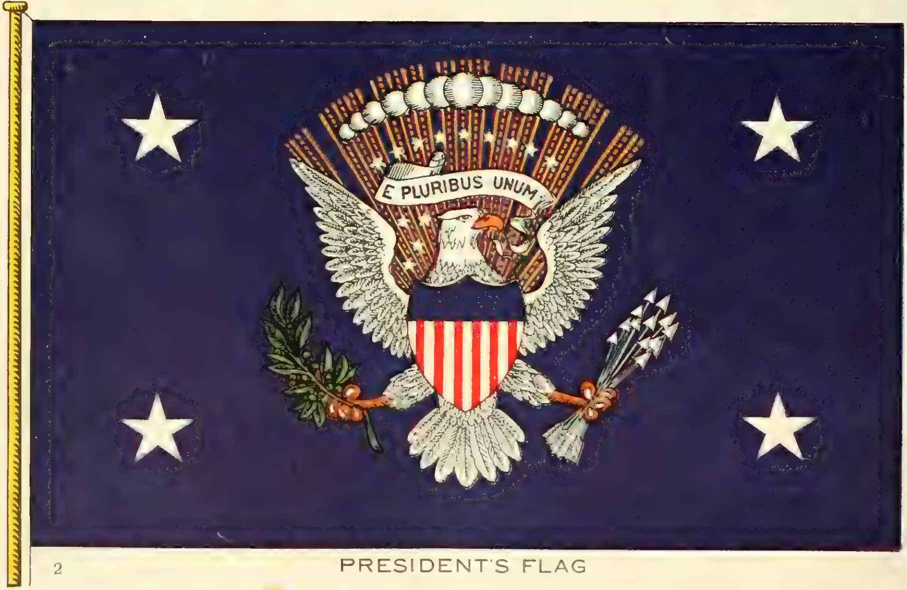
44. The white field with its centered cross proclaims the chaplain. This flag is used for field service only.

45. The transports under Quartermaster's Corps, U. S. Army, fly this flag.

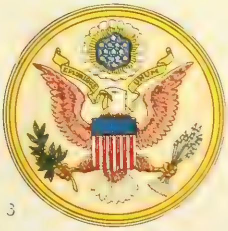
46. This is the distinguishing flag of mine-planters and submarine defense vessels under army control. It consists of a field bearing



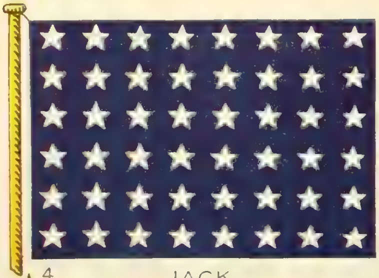
1 U. S. FLAG AND ENSIGN



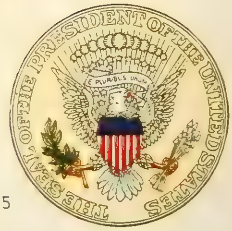
2 PRESIDENT'S FLAG



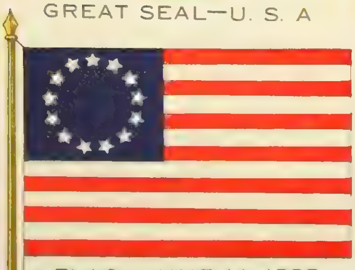
3 GREAT SEAL—U. S. A



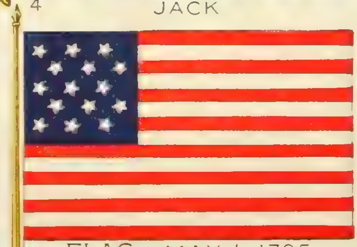
4 JACK


THE SEAL OF THE PRESIDENT OF THE UNITED STATES
E PLURIBUS UNUM

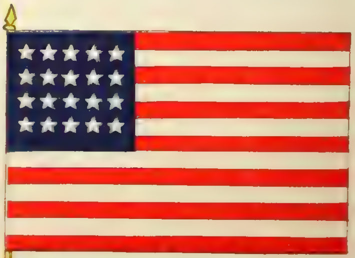
5 PRESIDENT'S SEAL



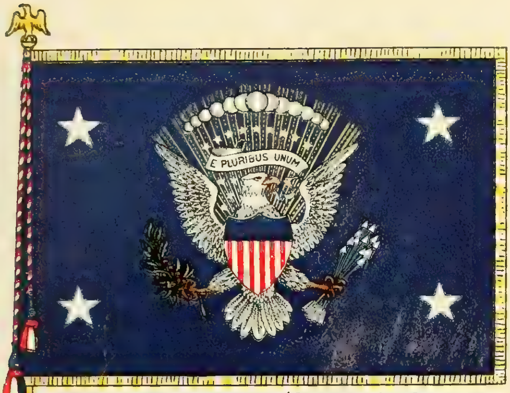
6 FLAG—JUNE 14. 1777



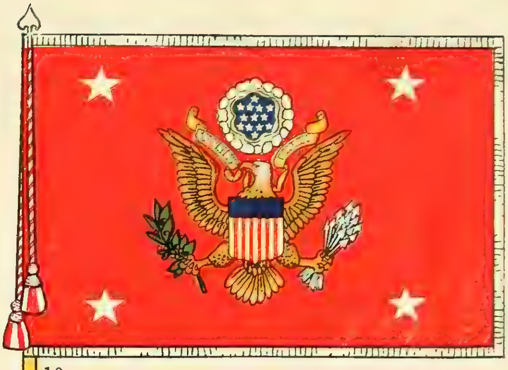
FLAG— MAY 1 1795
7 (FT McHENRY FLAG)



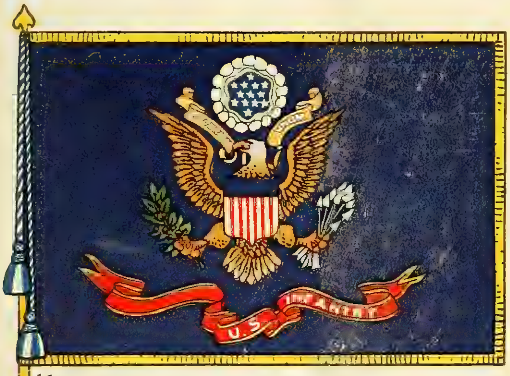
8 FLAG—JULY 4. 1818



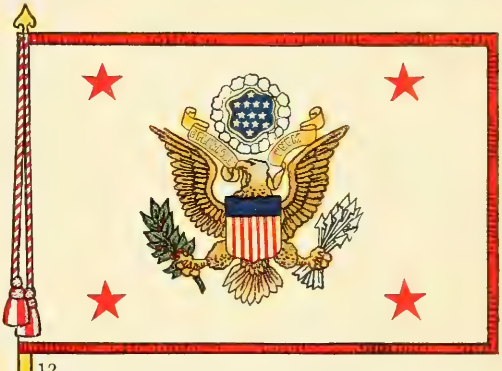
9 PRESIDENT'S COLORS



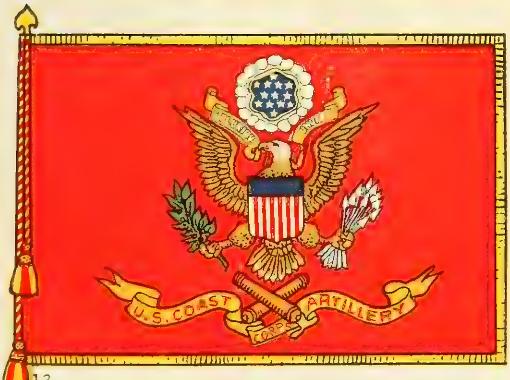
10 SECRETARY OF WAR COLORS



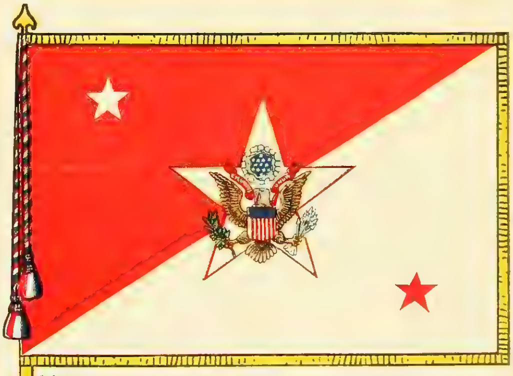
11 INFANTRY COLORS



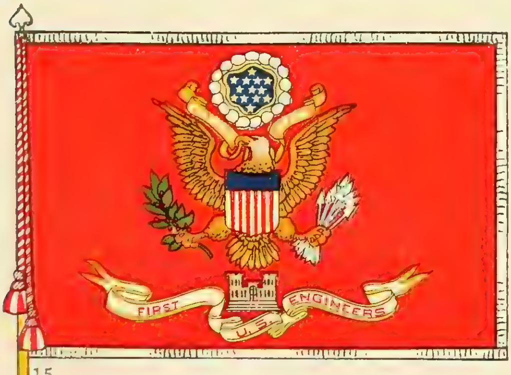
12 ASSISTANT SEC OF WAR COLORS



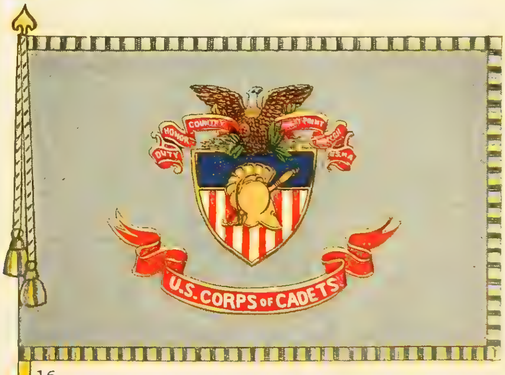
13 COAST ARTILLERY CORPS COLORS



14 CHIEF OF STAFF COLORS

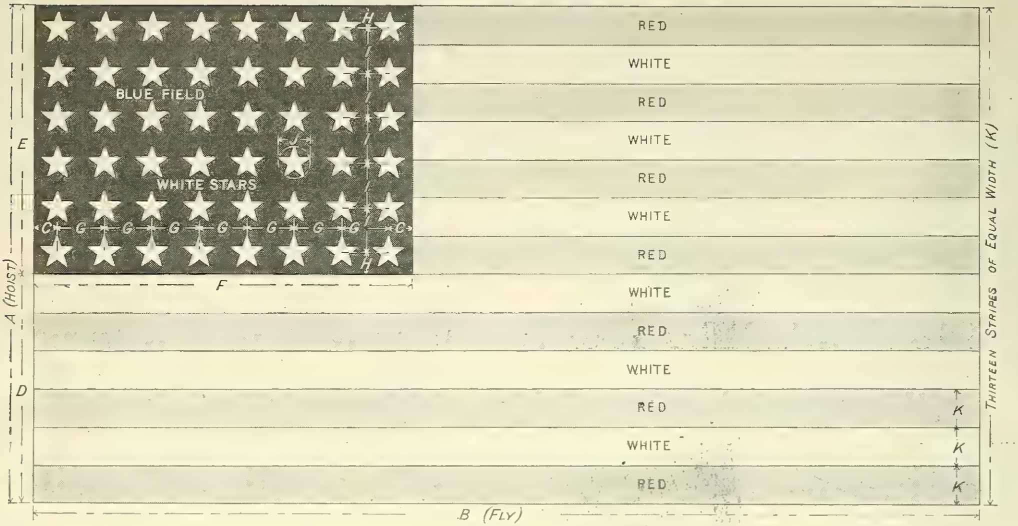


15 ENGINEER COLORS



16 CORPS OF CADETS COLORS

UNITED STATES ENSIGN



No.	A	B	C	D	E	F	G	H	I	J	K
	FEET	FEET	FOOT	FEET	FEET	FEET	FEET	FOOT	FEET	FEET	FEET
1	20	38	.95	9.23	10.77	15.20	1.90	.897	1.79	1.23	1.54
2	19	36.10	.903	8.77	10.23	14.44	1.81	.850	1.70	1.17	1.46
3	14.35	27.27	.619	6.62	7.73	10.91	1.24	.642	1.28	.883	1.103
4	12.19	23.16	.579	5.63	6.56	9.26	1.16	.545	1.09	.751	.938
5	10	19	.475	4.62	5.38	7.60	.95	.449	.90	.616	.769
6	8.94	16.99	.424	4.13	4.81	6.79	.848	.400	.798	.551	.687
7	5.14	9.77	.244	2.37	2.77	3.91	.488	.230	.459	.317	.395
8	5	9.50	.237	2.31	2.69	3.80	.475	.224	.449	.308	.385
9	3.52	6.69	.167	1.62	1.90	2.68	.335	.158	.316	.271	.271
10	2.90	5.51	.138	1.34	1.56	2.20	.275	.130	.260	.208	.223
11	2.37	4.50	.113	1.09	1.28	1.80	.225	.106	.213	.167	.182
12	1.31	2.49	062	.60	.71	1.00	.124	.059	.118	.094	.101

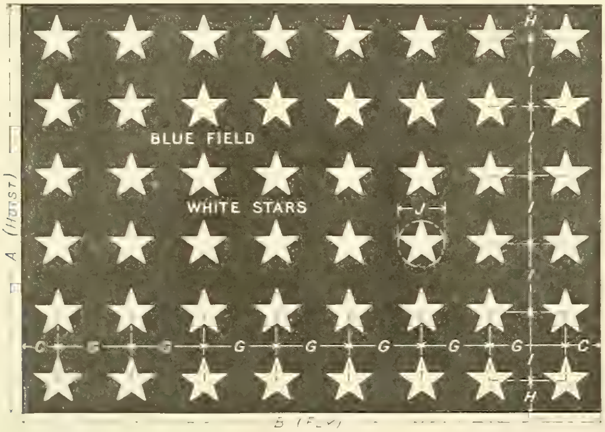
ARMY SIZES
Nos. 1, 5 and 8

BOAT FLAG SIZES
Nos. 9, 10, 11 and 12

FOREIGN ENSIGNS

No.	A	B
	FEET	
1	13.12	VARIABLE
2	8.75	VARIABLE

UNION JACK



UNION JACK

No.	A	B	C	H	I	G	J
	FEET	FEET	FOOT	FOOT	FEET	FEET	FEET
2	10.23	14.44	.902	.850	1.705	1.805	1.170
3	7.72	10.91	.619	.642	1.281	1.238	.883
4	6.56	9.26	.579	.545	1.089	1.158	.751
6	4.81	6.79	.424	.400	.798	.848	.551
7	2.77	3.91	.244	.230	.459	.488	.317

	SECRETARY OF THE NAVY SEE FLAGS 49 & 53		ADMIRAL, VICE ADMIRAL ETC SEE FLAGS 64 TO 66		SENIOR OFFICER PRESENT SEE FLAG 68	
No	A	B	A	B	A	B
	FEET	FEET	FEET	FEET	FEET	FEET
1	10.20	14.40	10.20	14.40	8.00	6.40
2	7.73	10.88	7.73	10.88	6.56	5.25
4	3.60	5.13	4.81	6.77	4.90	3.90
6			3.60	5.13		

A DIAGRAM AND TABLE TO SHOW THE EXACT PROPORTION AND POSITION OF EACH FEATURE OF THE STARS AND STRIPES, ACCORDING TO THE REGULATIONS OF THE ARMY AND NAVY thereon crossed cannons and a mine, with the words "Submarine Defense."

47. Army vessels engaged in the ordnance service fly this distinguishing flag.

48. Vessels in the engineer service fly flags bearing as a distinguishing mark the castellated fort which is the emblem of the Engineer Corps.

49. The flag of the Secretary of the Navy consists of a blue field bearing four white stars, one in each corner, and a centered anchor. When that official is aboard any vessel of the navy his flag is displayed at the main mast and when on a boat it is displayed from a staff in its bows.

50. This is the major commission pennant of the United States Navy. It is flown at the main mast of all of the larger ships of the navy as long as they are in commission, except when they have an officer above the rank of captain aboard, when the flag of command takes its place.

51. The seven-star pennant is flown by the lesser ships of the navy when in commission, such as submarines and other small craft. It is used by captains of ships as their pennant, and is carried in the bows of boats on which they are embarked on an official visit.

52. The national colors of the United States Marine Corps bear on the middle stripe of red the words "U. S. Marine Corps." Regiments carry them together with the regimental colors.

53. The flag of the Assistant Secretary of the Navy is white with blue stars and blue anchor, an interchange of the colors of the Secretary's flag. It is displayed at the main mast when the Assistant Secretary is the ranking officer present.

54. This pennant is carried by vessels of the naval militia while in commission and is displayed at the main mast, unless the commanding officer has the rank of commodore, when 73 replaces the pennant.

55. The colors of the United States Marine Corps are kept at headquarters in Washington. They bear in Latin the motto, "Always faithful."

56. The flag of the United States naval reserve is displayed on vessels which have been given a certificate that they belong to the reserve forces.

57. When the navy lands its men as infantry for shore duty, they carry a blue flag upon which is centered a diamond of white, bearing a blue anchor.

58. When an Ambassador of the United States goes aboard a vessel of the navy on official business the boat upon which he is embarked bears in its bow the navy jack. The jack is also used by the naval governors of Guam, Tutuila, and the Virgin Islands of the United States when afloat within their jurisdiction. The jack is nearly always the canton of a nation's ensign when the latter has a canton as one of its features.

59. The regimental colors of the United States Marine Corps has a field of blue upon which is imposed an anchor, and over this the Western Hemisphere surmounted by the American spread-eagle. Scrolls of red above and below the design proclaim the number of the regiment and the name of the corps.

60. Vessels of the naval militia display this flag at the fore mast as a distinguishing mark. The flag consists of a blue ground, a yellow diamond imposed thereon, bearing the blue anchor of the navy.

61. When the navy lands artillery battalions for shore duty the flag they carry has a red field, with a centered diamond of white, upon which appears a red anchor.

62. The colors of the United States Naval Academy have a blue field, gold fringe, and a centered white diamond, bearing an anchor in white and blue. These colors are carried with the national colors by the regiment of midshipmen.

63. The colors of the United States Marine Corps carried between 1830 and 1850 had a white field, gold fringe, and bore an elaborate design in the center, at the top of which was the legend, "FROM THE SHORES OF TRIPOLI TO THE HALLS OF MONTEZUMA," having reference to the engagements the marines participated in from the beginning of the Tripolitan War and the ending of the War with Mexico.

64. The flag of the senior admiral of the navy is blue and bears four stars in the form of a cross. This flag is displayed at the main mast of the admiral's flagship, taking the place of the commission pennant (50) used on vessels other than flagships. It, along with those of the vice admiral, rear admiral, and commodore, is called a flag of command. The flags used today correspond to the Gadsden flag (398) flown by Esek Hopkins when he took command of the navy at Philadelphia, December 3, 1775.

65. The flag of the vice admiral has three stars.

66. A rear admiral's flag has two stars.

67. The flag of a commodore has one star and is a burgee. There are no commodores in active service in the American navy, although there are several on the retired list. That grade has been abolished from the naval service.

68. When vessels of the navy are together and no flag officer is present, the senior officer hoists at the starboard main yard arm a blue triangular pennant as a badge of command.

69. The flag of the Major General Commandant of the Marine Corps has a red field with two white stars in the lower half and above them the eagle-crested hemisphere imposed upon an anchor which is the emblem of the corps.

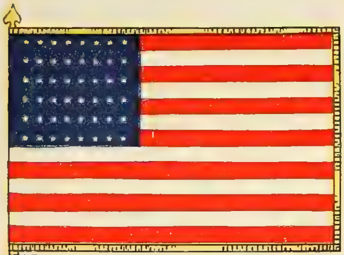
70. A junior admiral in the presence of a senior flies a flag similar to that of the senior admiral, with the exception that the field is red instead of blue.

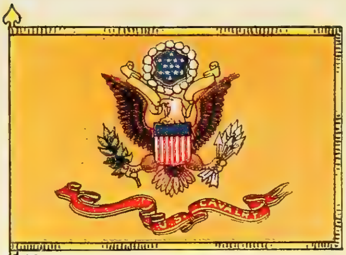
71. A junior vice admiral in the presence of a senior vice admiral flies a red flag bearing the three stars of his rank.

72. Rear admirals of junior grade fly a red flag bearing two stars while in the presence of rear admirals senior to them.

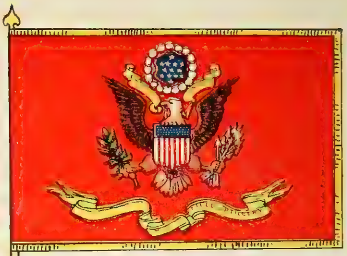
73. The commodore of the Naval Militia carries a broad pennant, the upper half blue and the lower half yellow, on the blue half of which appears a five-pointed star.

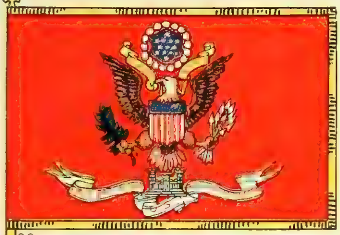
74. When a consul goes aboard a vessel of the navy on official business, a blue flag with a centered letter "C" inclosed in a circle of thir-

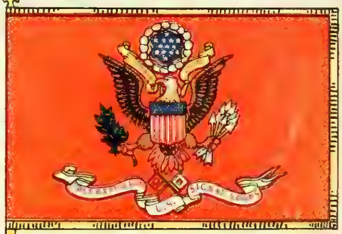

17 NATIONAL STANDARD



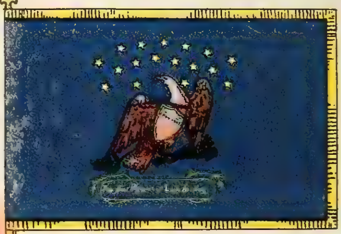
18 CAVALRY STANDARD

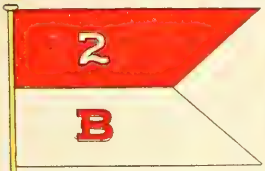

19 FIELD ARTILLERY STANDARD


20 U S MOUNTED ENGINEERS

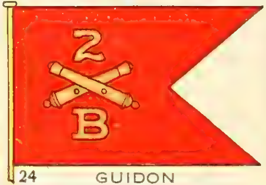


21 U. S. SIGNAL CORPS

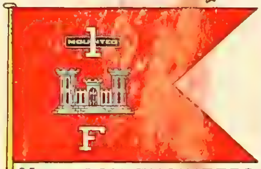

22 STANDARD WAR 1812



23 GUIDON—CAVALRY



24 GUIDON
FIELD ARTILLERY



25 GUIDON ENGINEERS
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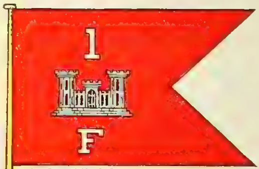

26 GUIDON ENGINEERS
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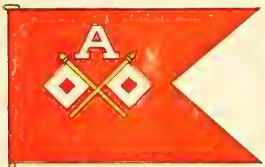
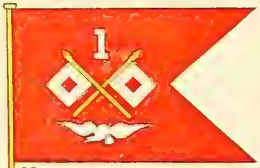


27 GUIDON-SIGNAL CORPS



28 GUIDON
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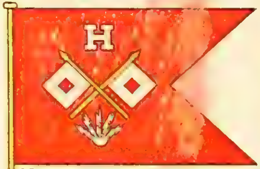
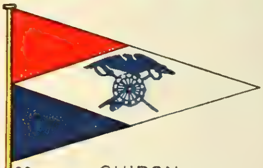
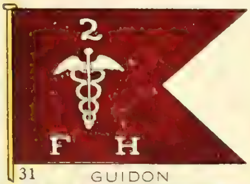


29 GUIDON
TELEGRAPH CO


30 GUIDON-
-MOTOR TRUCK CO



31 GUIDON
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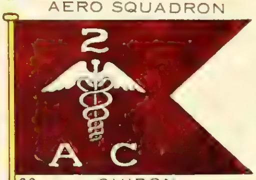

32 GUIDON
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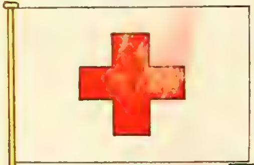
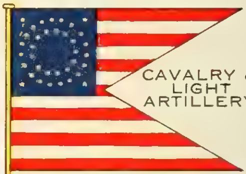
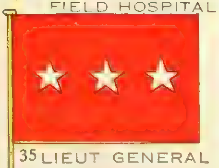
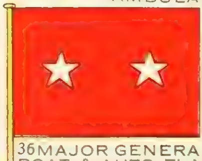

33 FIELD HOSPITAL
FLAG


CAVALRY &
LIGHT
ARTILLERY
34 GUIDON—CIVIL WAR


35 LIEUT GENERAL
BOAT & AUTO FLAG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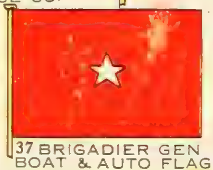
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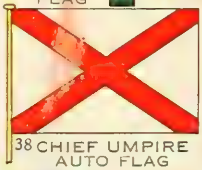
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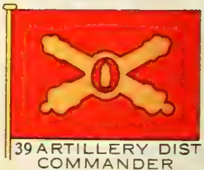

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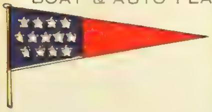
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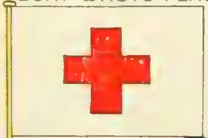
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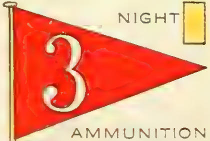

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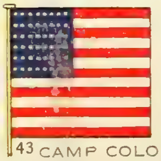
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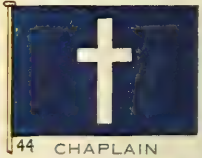
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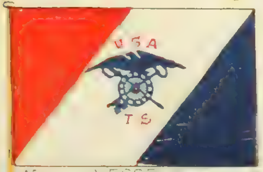

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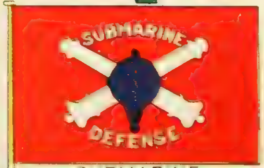

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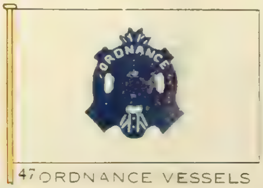

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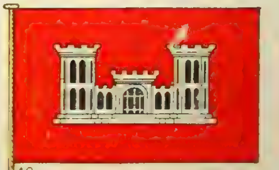
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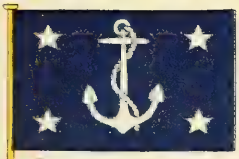
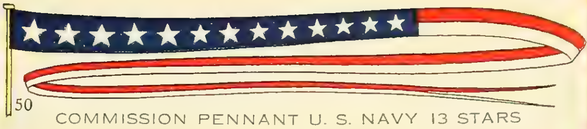
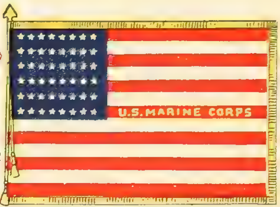
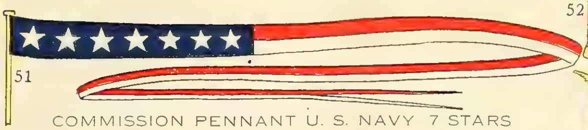

49 SECRETARY NAVY


50 COMMISSION PENNANT U. S. NAVY 13 STARS



52 NATIONAL COLORS U S M C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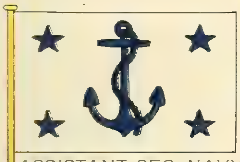
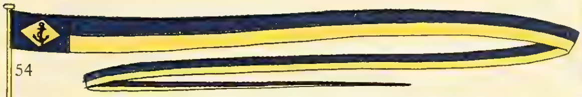
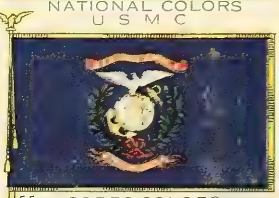

53 ASSISTANT SEC. NAVY


54 COMMISSION PENNANT NAVAL MILITIA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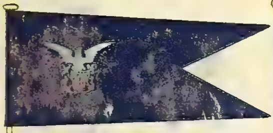
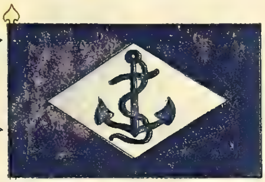
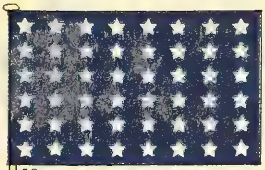
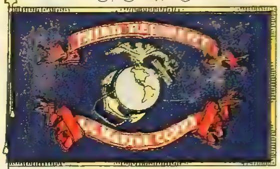

56 U. S. NAVAL RESERVE


57 BATTALION INFANTRY


58 JACK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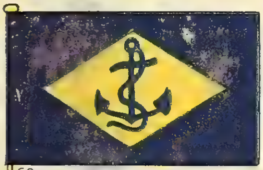
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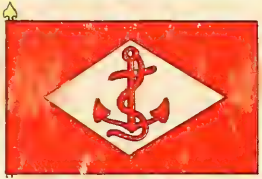
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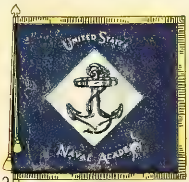
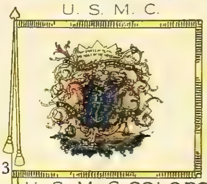
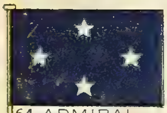
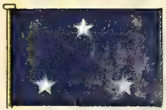


62 U. S. NAVAL ACADEMY


63 U. S. M. C COLORS 1830-50


64 ADMIRAL (SENIOR)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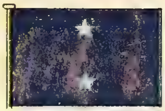
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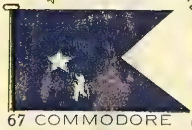
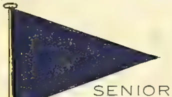

67 COMMODORE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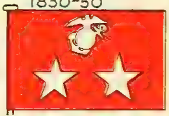
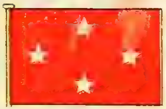

69 MAJ GENL. U S M C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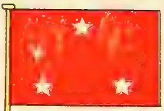
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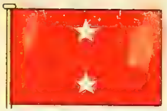
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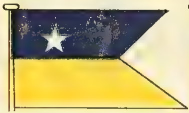
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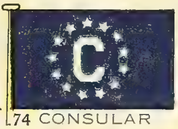

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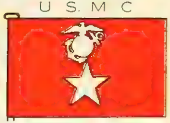
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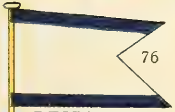
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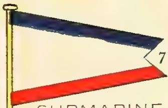
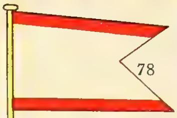

77 SUBMARINE FORCE COMMANDER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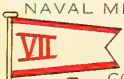
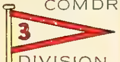
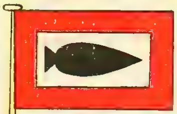
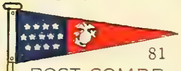


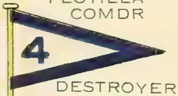
79 SECT. COMDR



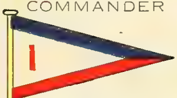
79½ DIVISION COMDR


80 SUBMARINE WARNING

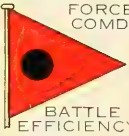

81 POST COMDR U. S. M. C BOAT FLAG

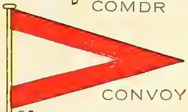


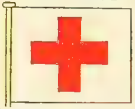
82 DESTROYER DIVISION COMDR

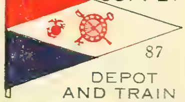


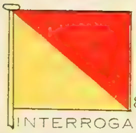
83 SUBMARINE DIVISION COMDR

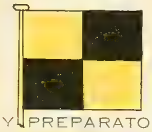

84 BATTLE EFFICIENCY

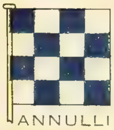

85 CONVOY POSITION DIVISION GUIDE

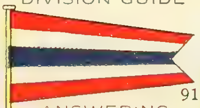

86 HOSPITAL

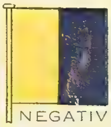

87 QUARTERMASTER'S SUPPLY DEPOT AND TRAIN

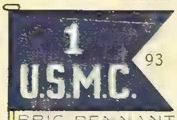

88 INTERROGATORY


89 PREPARATORY

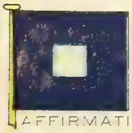

90 ANNULLING

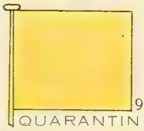

91 ANSWERING & DIVISIONAL

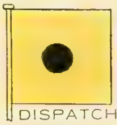

92 NEGATIVE



93 BRIG. PENNANT U. S. M. C.

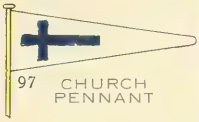

94 AFFIRMATIVE

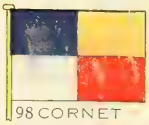

95 QUARANTINE

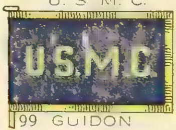

96 DISPATCH

MAN OVER BOARD

BREAK DOWN


97 CHURCH PENNANT


98 CORNET



99 GUIDON U S M C

teen white stars flies in the bows of the boat in which he is embarked.

75. The flag of a brigadier general of the United States Marine Corps is similar to that of a major general (69), except that it carries one star instead of two.

76. The flag of the commander of a destroyer flotilla is a swallow-tail pennant of plain white bordered above and below with blue.

77. The commander of a submarine force has a triangular swallow-tail pennant bordered above with blue and below with red.

78. The commanders of district patrol forces carry a swallow-tail pennant having a white field bordered by red above and below.

79. Section commanders of the patrol force carry a smaller duplicate of 78, with the number of the section in Roman numerals thereon.

79½. The division commander of the patrol force carries a red-bordered white triangular pennant with the number of the division in Arabic notation.

80. When submarines are operating in times of peace a submarine warning flag is flown on their tenders, while the submarine itself bears on one of its periscopes a small metal flag of the same design.

81. The boat flag of a post commander of the United States Marine Corps is a triangular pennant of blue and red, blue at the hoist and red in the fly, with thirteen white stars on the blue and the insignia of the Marine Corps on the red.

82. Destroyer division commanders carry a white triangular pennant bordered with blue, with their numbers indicated on the white field.

83. The flag of a division commander of the submarine force is a white triangle bordered with blue at the top and red below, showing the number of the division in red on the white.

84. The battle efficiency pennant is one of the most coveted trophies of the American navy. There is one for each class of ships, such as battleships, destroyers, and submarines. The ship of a given class which, during the preceding year, has shown by her practice and performance the ability to hit most often and quickest, to steam the farthest with the least expenditure of fuel, water, etc., to run longest without breakdown, and which otherwise gives evidence that she might be expected to give a better account of herself in a battle than any other vessel of her class, is awarded the privilege of flying the battle efficiency pennant during the ensuing year. There is the keenest rivalry between the competing vessels of a class, and this little red triangular flag with the black disk is prized next to victory in battle itself.

85. This flag is flown by vessels engaged in convoy duty. When ships are engaged in maneuvers or are maneuvering in compound formation, this pennant is an indication to the other vessels of the division to take bearing and distance from the ship bearing it.

86. Hospital ships fly the Red Cross flag, and under international law they are immune from attack, unless it can be shown that the ship flying it fails to respect all of the provisions of the international compact made at Geneva.

87. This is the flag under which the marine corps moves quartermaster's supplies for its men.

88. The interrogatory flag is used in signaling when one ship wants to make a signal in the interrogatory form or to announce that it does not understand a signal.

89. The preparatory flag is displayed with a signal in order that preparations may be made to execute the signal itself uniformly and simultaneously. When the signal alone is hauled down, the ships having made ready, execute the signal. It is also hoisted when the ceremony of hoisting the colors in the morning and taking it in at sunset is the next thing on the program. It is raised five minutes before the ceremony begins. Upon being hauled down by the flagship, all ships execute the colors ceremony simultaneously.

90. This flag is displayed either to countermand the last signal made or the one then being shown.

91. This pennant has two uses. Its first use is in answering a call for a semaphore or wig-wag message, being hoisted half way when the ship is ready to receive the message, and all the way when the message has been completely received. It is then hauled down. Used thus, it might be said to be the "Aye, aye, sir" flag of the navy. Its other use is as a decimal or divisional flag in flags indicating numerals and quantities.

92. This is the "No" flag of the navy. It is used to negative a request, or to say "No" to a question.

93. The brigade pennant of the United States Marine Corps has a swallow-tailed blue field, with the number of the brigade and the initials of the corps in gold.

94. When a ship asks permission of the flagship to do this or that, the force commander hoists this flag with the number distinguishing the vessel making the request, as a sign that it has been granted.

95. The yellow flag, as is well known, is the one which proclaims that there is contagious disease aboard.

96. This flag has two uses. Hoisted at the main mast, it means that the vessel displaying it is engaged on dispatch duty. It is always carried in a roll at the fore mast of vessels in formation, so that it can be displayed, or "broken out," as the sailors say, instantly, to indicate an accident or derangement on board that vessel and to warn other ships to keep clear. Hoisted half way, clear of the smokestack, it indicates a man overboard.

97. The church pennant is always displayed when divine services on board are in progress.

98. The cornet flag, displayed at the yard arm, calls all vessels present to receive a semaphore or wig-wag message. Displayed at the fore mast, it is notice to all officers and men to come on board at once.

99. The guidon of the United States Marine Corps has a blue field, is gold fringed, and bears in gold on the field the initials of the corps.

100. This flag, displayed with 101, 102, 103, 104, 105, 106, 107, 108, 110, and 111, indicates that they represent in value the numerals given below them. If those flags are not displayed

in connection with 100, they have other meanings, both in the navy code and in the international code.

109. Displayed with a numeral signal, this flag summons the boat which has been assigned that particular number to return to the ship. Displayed alone, it recalls all boats then absent from the ship on which it is flying.

112. These are the semaphore flags used in the navy.

113. These are the wig-wag flags used in signal operations ashore and afloat.

114-115-116. These pennants are used to repeat the first, second, and third flags in the hoist.

117. This is a pennant very much in use, and when a ship is at anchor especially welcome to the crew. It is the meal signal. When a ship is under way it indicates that the vessel is making more than standard speed for some purpose or other. When hoisted below the admiral's flag on his flagship, it indicates that that officer is about to leave.

118. This pennant is displayed from the yard arm of a flag officer's ship when he is absent.

119. The powder flag is displayed at the fore mast when a ship is taking on board powder or munitions. It is also carried in boats and lighters used in transporting ammunition.

120-171. These flags are used in designating various divisions and ships of the naval forces.

INTERNATIONAL CODE OF SIGNALS

172-197. The international code of signals is a great universal dictionary which makes communication everywhere intelligible, regardless of the tongue spoken by those using it. A ship using a signal book printed in English can communicate with a vessel using a book printed in French or Italian as easily as if the second ship were using an English book.

The international code of signals consists of twenty-six flags—one for each letter of the alphabet—and a code pennant. By means of these flags 375,000 different signals can be made. This code was adopted by international agreement in January, 1901, and is almost entirely based on a system of signaling by flags devised by the British Government in 1856. The code consists of nineteen square flags (179-197), two burgee flags (172-173), and five pennants (174-178) and the code or answering pennant (213).

When hoisted under the ensign (1 for United States, 829 for Great Britain, 743 for France, etc.), the code pennant (213) denotes a signal taken from the international code. When hoisted by itself at the masthead, or where it can best be seen, it is the answering pennant.

One-flag signals are for use only between vessels towing and being towed. The flag is then exhibited by being held in the hand or by hoisting at the stay or fore shrouds or to the gaff, according to circumstances.

Two-flag signals are urgent and important signals, and are made by the code pennant over one flag, or by combinations of any two flags AB to ZY.

Three-flag signals are general signals, including compass signals and signals designating moneys, measures and weights, decimals and fractions, auxiliary phrases, etc.

Four-flag signals are geographical, alphabetical spelling table, or vessels numbers signals.

198-205. These are yacht flags, indicating respectively the absence of the owner, the presence of guests, the owner's dinner, the crew's meal, etc.

206-209. These figures show how the dots and dashes of the United States army and navy wig-wag code are made by flag-wavers (see illustration on another page).

210-212. These are the semaphore flags of the United States army, the boy scouts, and the British forces. The boy scouts of America, several hundred thousand strong, and tens of thousands of boys who do not belong to that organization, are fast learning to communicate with one another by means of flags.

213. A ship wishing to make a signal hoists her ensign (1 for United States, 829 for Great Britain, 743 for France, etc.) with this code flag under it (see note under 172-197).

214-217. These figures show the numbering and coloring of buoys as seen coming from the sea, and illustrated by the alliteration "red, right, returning."

218-219. These figures represent respectively the masthead light required by the international rules of the road for steam trawlers and the area required to be covered by the starboard and port running lights, the masthead and optional range lights, and the stern lights of steam vessels.

220-223. These are the day signals for a pilot, the first being the jack, in this case the United States jack, at the fore, the next two flags showing the signal P. T. and S. respectively, and the third the distance signal, consisting of balls and cone.

224-229. Signals of distress include the S. O. S. call—three dots, three dashes, and three dots—the inverted ensign, etc. A continuous sounding with any fog signal is also a signal of distress.

230. Night pilot signals include flashes of one minute duration at frequenting intervals, or a blue light showing every fifteen minutes.

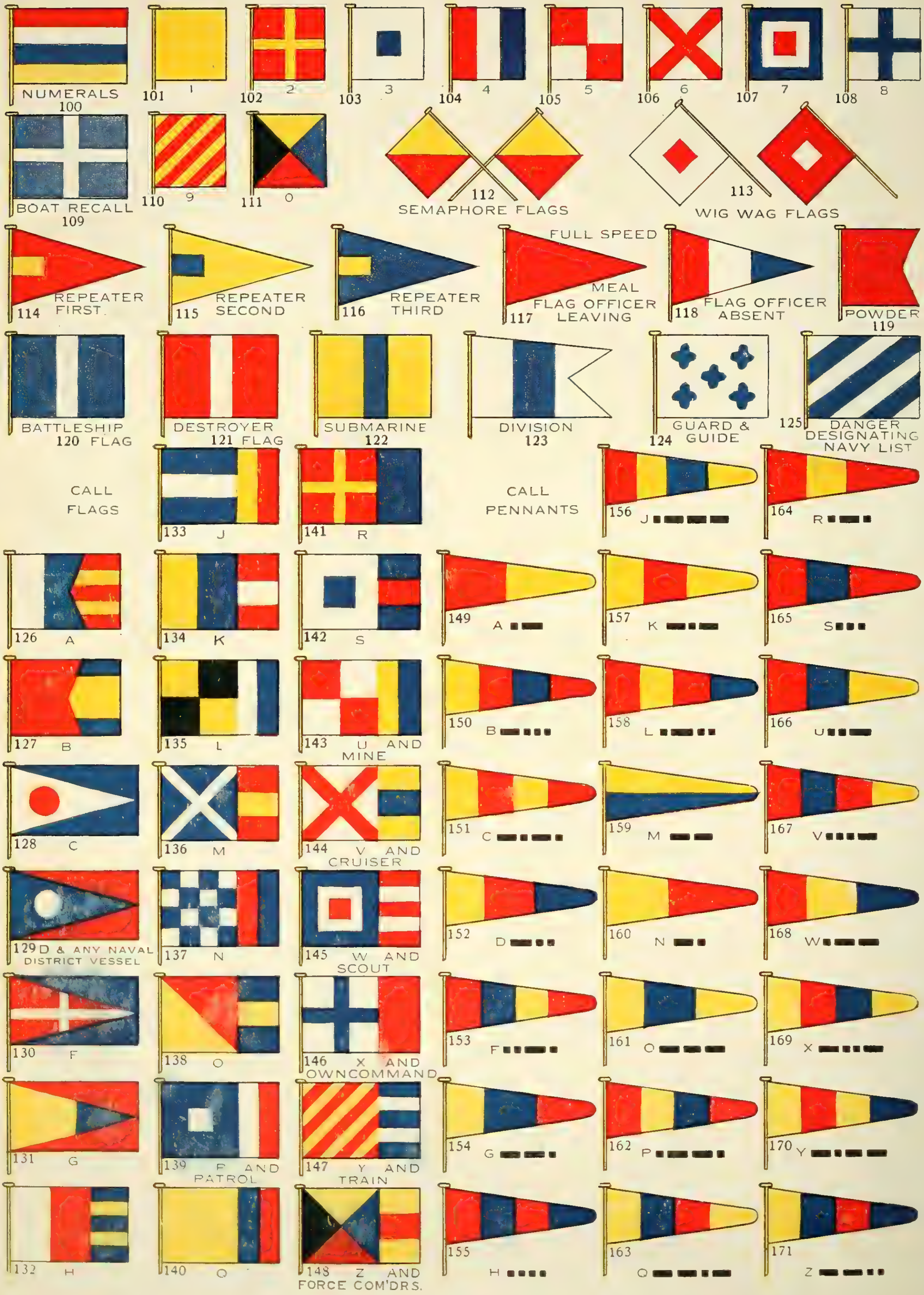
231-233. Night signals of distress are made through gun fire at intervals of one minute, by flames from a tar or oil barrel, rockets, or bombs.

COAST GUARD SIGNALS

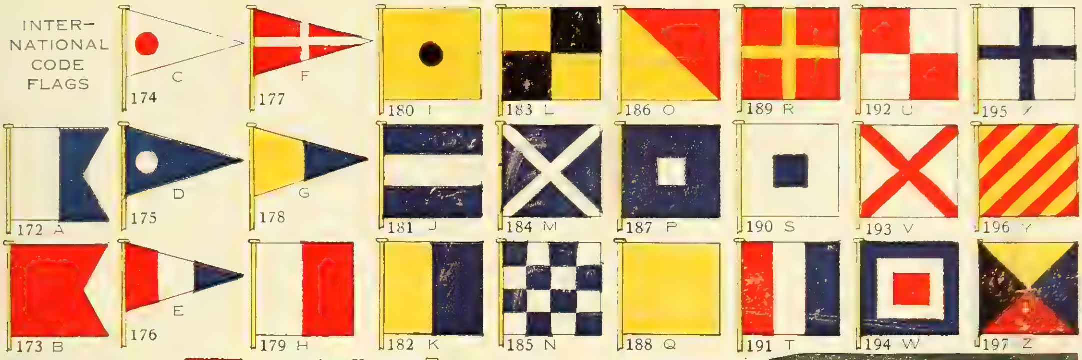
234-238. All manned Coast Guard stations of the United States are equipped with international code flags, and are prepared to send or receive signals in that code or by means of the International Morse Code. Practically all the stations are provided with means of telephonic communication through which the telegraph lines may be reached.

The following signals, recommended by the International Marine Conference for adoption by all institutions for saving life from wrecked vessels, have been adopted by the Coast Guard of the United States:

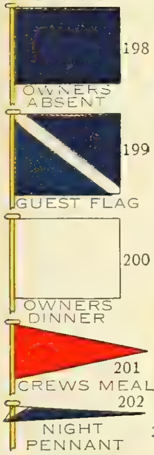
Upon the discovery of a wreck by night, the station crew will burn a red pyrotechnic light

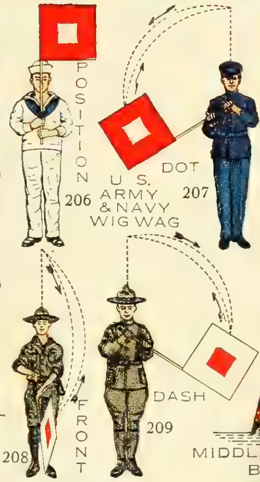

NUMERALS 100
101 1
102 2
103 3
104 4
105 5
106 6
107 7
108 8
BOAT RECALL 109
110 9
111 0
112 SEMAPHORE FLAGS
113 WIG WAG FLAGS
114 REPEATER FIRST
115 REPEATER SECOND
116 REPEATER THIRD
FULL SPEED MEAL FLAG OFFICER LEAVING 117
118 FLAG OFFICER ABSENT
POWDER 119
BATTLESHIP 120 FLAG
DESTROYER 121 FLAG
SUBMARINE 122
DIVISION 123
GUARD & 124 GUIDE
125 DANGER DESIGNATING NAVY LIST
CALL FLAGS
133 J
141 R
CALL PENNANTS
156 J
164 R
126 A
134 K
142 S
149 A
157 K
165 S
127 B
135 L
143 U AND MINE
150 B
158 L
166 U
128 C
136 M
144 V AND CRUISER
151 C
159 M
167 V
129 D & ANY NAVAL DISTRICT VESSEL
137 N
145 W AND SCOUT
152 D
160 N
168 W
130 F
138 O
146 X AND OWNCOMMAND
153 F
161 O
169 X
131 G
139 P AND PATROL
147 Y AND TRAIN
154 G
162 P
170 Y
132 H
140 Q
148 Z AND FORCE COM'DRS.
155 H
163 Q
171 Z

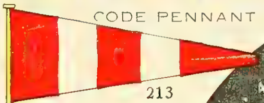
INTER-NATIONAL CODE FLAGS

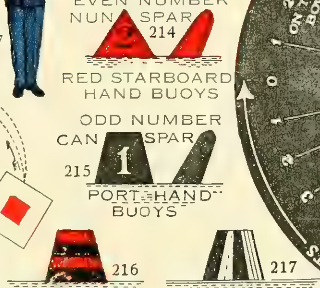

174 C; 177 F; 180 I; 183 L; 186 O; 189 R; 192 U; 195 X
172 A; 175 D; 178 G; 181 J; 184 M; 187 P; 190 S; 193 V; 196 Y
173 B; 176 E; 179 H; 182 K; 185 N; 188 Q; 191 T; 194 W; 197 Z

YACHT FLAGS

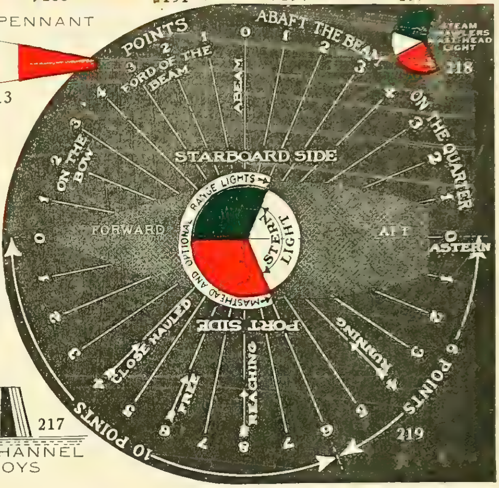

198 OWNERS ABSENT
199 GUEST FLAG
200 OWNERS DINNER
201 CREWS MEAL
202 NIGHT PENNANT


206 POSITION
207 DOT
U. S. ARMY & NAVY WIG WAG
208 FRONT
209 DASH
SEMAPHORE FLAGS

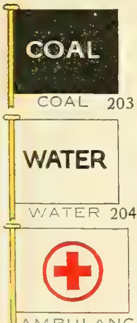

CODE PENNANT
213



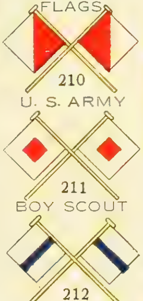
U. S. BUOYS
EVEN NUMBER NUN SPAR 214
RED STARBOARD HAND BUOYS
ODD NUMBER CAN SPAR 215
PORT HAND BUOYS
216 MIDDLE GROUND BUOYS
217 MID CHANNEL BUOYS



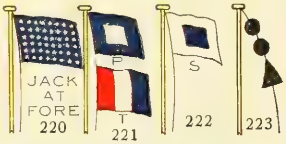
218
219



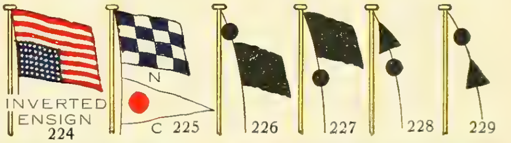
COAL 203
WATER 204
AMBULANCE 205


210 U. S. ARMY
211 BOY SCOUT
212 BRITISH

PILOT SIGNALS

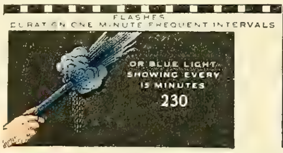

JACK AT FORE 220
P T 221
S 222
223

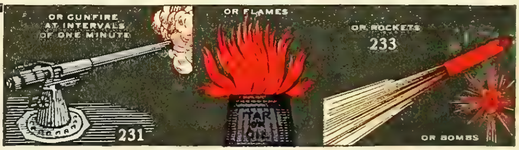
DISTRESS SIGNALS S O S ▬▬▬ ▬▬▬ ▬▬▬


INVERTED ENSIGN 224
N C 225
226
227
228
229

NIGHT PILOT SIGNALS

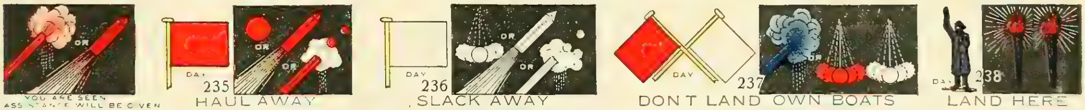
A CONTINUOUS SOUNDING WITH ANY FOG SIGNAL


FLASHES
DURATION ONE MINUTE FREQUENT INTERVALS
OR BLUE LIGHT SHOWING EVERY 15 MINUTES
230



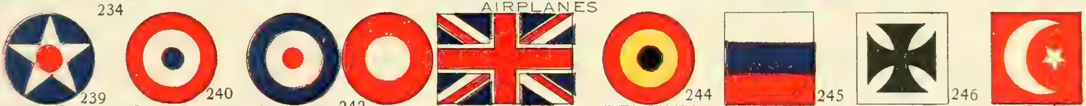
231
232
233

LIFE SAVING SIGNALS

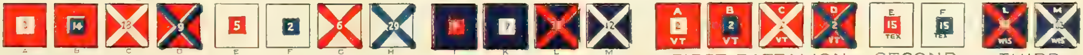


YOU ARE SEEN ASSISTANCE WILL BE GIVEN 234
235 HAUL AWAY
236 SLACK AWAY
237 DONT LAND OWN BOATS
238 LAND HERE

AIRPLANES

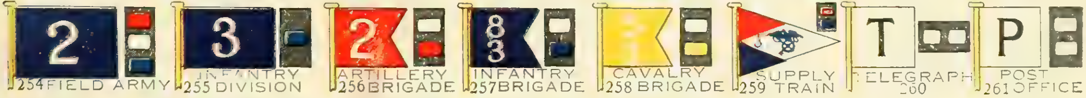

239 U S
240 FRENCH 241
242 BRITISH 243
244 BELGIUM
245 RUSSIA
246 GERMANY
TURKEY 247

COMPANY SIGNAL FLAGS



U S INFANTRY
FIRST BATTALION 248
SECOND BATTALION 249
THIRD BATTALION 250
MILITIA AND VOLUNTEERS
FIRST BATTALION 251
SECOND BATT. 252
THIRD BATT. 253

ARMY HEADQUARTERS DISTINGUISHING FLAGS AND LANTERNS



254 FIELD ARMY
INFANTRY 255 DIVISION
ARTILLERY 256 BRIGADE
INFANTRY 257 BRIGADE
CAVALRY 258 BRIGADE
SUPPLY 259 TRAIN
TELEGRAPH 260
POST 261 OFFICE

or a red rocket to signify, "You are seen; assistance will be given as soon as possible" (234).

A red flag waved on shore by day, or a red light, red rocket, or red roman candle displayed by night, will signify, "Haul away" (235).

A white flag waved on shore by day, or a white light swung slowly back and forth, or a white rocket or white roman candle fired by night, will signify, "Slack away" (236).

Two flags, a white and a red, waved at the same time on shore by day, or two lights, a white and a red, slowly swung at the same time, or a blue pyrotechnic light burned by night, will signify, "Do not attempt to land in your own boats; it is impossible" (237).

A man on shore beckoning by day, or two torches burning near together by night, will signify, "This is the best place to land" (238)

Any of these signals may be answered from the vessel as follows: In the day-time, by waving a flag, a handkerchief, a hat, or even the hand; at night, by firing a rocket, a blue light, or a gun, or by showing a light over the ship's gunwale for a short time and then concealing it.

239-246. The insignia of the airplanes of the various countries are here shown. The United States makes use of the five-pointed star, Great Britain still retains her three crosses of the union jack, Germany marks hers with the Prussian black cross, and Turkey displays the familiar star and crescent.

248-253. These represent the company signal flags of the U. S. infantry and of the militia and volunteers.

254-261. Distinguishing flags and lanterns of army headquarters.

262. The flag of the Secretary of the Treasury, who is Commander-in-Chief of the Coast Guard and Public Health Service, has a blue field with crossed anchors in white centered thereon, the design surrounded by thirteen white five-pointed stars. This flag is flown when the Secretary of the Treasury is aboard vessels of the Treasury service.

263. The U. S. Coast Guard flag was adopted in 1799 for the Revenue Cutter Service, now merged with the Life Saving Service into the Coast Guard. The sixteen vertical stripes proclaim the sixteen States that were in the Union at the time the design was adopted; its red eagle, with the stars above and the escutcheon on its breast, bespeaks the Federal service. The badge on the seventh red stripe bears a shield surrounded by the motto, "Semper Paratus 1790" (Always prepared). It appears on the flag to show that it represents the Coast Guard. The same flag without the badge denotes the custom houses of the United States. In time of war the Coast Guard operates as a part of the United States Navy and then uses the flags and pennants of the naval service.

264-265. The design of the arms on the flags of the Secretary and Assistant Secretary of Commerce are identical, except for the transposition of colors. It is taken from the official seal of the department and shows on the upper part of the escutcheon a ship at full sail and on the lower part a lighthouse illumined. The service flag is hoisted at the fore mast on holidays, on occasions of official ceremonies, when entering a port after an extended voyage, and at any other time when the national ensign is hoisted. At no time should a service flag be displayed without the national ensign. These flags are shown as follows: 268, 272, 276, 280.

266. The Assistant Secretary of the Treasury has the same flag as the Secretary of the Treasury, except that the colors are transposed. His flag is never flown in the presence of the flag of his ranking officer, 262.

267. The pennant of the U. S. Coast Guard has thirteen stars and vertical red and white stripes. It was adopted in 1799, and is always displayed by Coast Guard cutters in commission. In time of war the Coast Guard operates as part of the U. S. Navy and wears the commission pennant of the navy.

268. The service flag of the Bureau of Navigation, with its white ship in a red disc on a blue ground is flown by all vessels of the Navigation Service during daylight hours.

269. The flag of the Commissioner of Navigation is blue, bearing a full-rigged ship in white in the center. It is flown on Department of Commerce vessels when the Commissioner of Navigation is on board.

270. The flag of the Customs Service is the same as that of the Coast Guard, except that the badge of the latter is omitted.

271. The jack of the Coast Guard Service is a reproduction of the canton of the ensign of the same service. The jack of the Coast Guard is used only at parades on shore. Since the national ensign has been used as the ensign of the Coast Guard, the old Coast Guard ensign is used only as a distinguishing flag, and the only jack displayed on vessels of the Coast Guard is 4.

272. A white fish on a red diamond imposed upon a blue ground constitutes the flag flown by the vessels of the Bureau of Fisheries. It was adopted in 1896.

273. The Commissioner of Fisheries has one of the newest flags in the Federal service. It is a blue banner with a white fish in the center and was adopted July 22, 1913.

274. The flag of the U. S. Public Health Service was adopted in 1894. It is the international yellow quarantine flag with the service shield thereon. The fouled anchor stands for the seamen in need of assistance, and the caduceus represents the herald or physician who is to bring restored health.

275. This is the flag of the senior officer present, and is flown in the Coast Guard to indicate that the ship which displays it bears the force commander.

276. The flag of the Bureau of Lighthouses is a white triangular pennant, red bordered, and bearing in the white field, parallel with the staff and next to it, a blue lighthouse.

277. The flag of the Commissioner of Lighthouses has the white field and blue lighthouse of the service flag placed upon a square field of blue.

278. The Surgeon General of the U. S. Public Health Service flies a flag of blue, bearing the fouled anchor, of the official shield of the service. The design is white.

279. Coast Guard cutters patrolling the anchorage grounds of the large harbors of the United States fly at their jackstaff a flag of white upon which is imposed a blue anchor.

280. The service flag of the Coast and Geodetic Survey consists of a blue field upon which is imposed a disc of white, bearing within its circumference a triangle of red.

281. The Superintendent of the Coast and Geodetic Survey has a flag with a blue field bearing a white triangle on the half next to the staff. This triangle, which is equilateral, proclaims the great work of fundamental surveying in United States waters, which is the chief activity of this bureau.

282. The 30th Congress, August 7, 1848, authorized "That all such licensed yachts shall use a signal of the form, size, and colors prescribed by the Secretary of the Navy, and the owners thereof shall at all times permit the naval architects in the employ of the United States to examine and copy the models of said yachts."

283-284. The commission pennants of the Coast and Geodetic Survey are here shown. They are flown at the main mast while the vessels are in commission.

285. The Secretary of Labor has a flag upon which are the four stars that the President and other members of his official family have on their flags, together with the seal of the Department of Labor. This includes an escutcheon surmounted by a spread eagle, and bearing on its field the plow and other devices which proclaim the dignity of labor.

286. Vessels of the U. S. Immigration Service display a pennant whose field is of white, bordered with blue and lettered with red. It is of a swallow-tailed, triangular design (or burgee) and bears, in addition to the lettering, the seal of the department to which it belongs.

287. Vessels belonging to the U. S. Postal Service fly a red, swallow-tailed, triangular pennant (or burgee), bordered with blue, bearing the American spread eagle and inscribed with the words "United States Mail."

288. The United States power-boat squadrons carry a flag like the yacht ensign, except that it wears perpendicular blue stripes where the yacht ensign has horizontal red ones, and has a red canton where the yacht ensign has one of blue.

289-300. U. S. WEATHER FORECAST FLAGS AND STORM WARNINGS

289, white flag, indicates clear or fair weather.

290, blue flag, indicates rain or snow.

291, white and blue flag (parallel bars of white and blue), indicates that local rains or showers will occur, and that the rainfall will not be general.

292 always refers to temperature; when placed above (289, 290, 291) it indicates warmer weather; when placed below it indicates colder weather; when not displayed, the indications are that the temperature will remain stationary, or that the change in temperature will not vary more than four degrees from the temperature of the same hour of the preceding day from March to October, inclusive, and not more than six degrees for the remaining months of the year.

293, white flag, with black square in center, indicates the approach of a *sudden* and *decided* fall in temperature. When 293 is displayed, 292 is always omitted.

When displayed on poles the flags should be arranged to read downward; when displayed from horizontal supports a small streamer should be attached to indicate the point from which the flags are to be read.

In the United States the system of weather signals is very complete, information of the approach of storms being received from various stations in the United States, and even throughout the West Indies. These warnings are published at the various seaports by the display of flags by day and by lanterns at night; also by bulletins and reports furnished to newspapers. Every effort is made by the Weather Bureau of the United States Department of Agriculture to give these warnings as early as possible at all points where they may be of service to mariners and others.

Storm warnings are displayed by the United States Weather Bureau at 142 stations on the Atlantic and Gulf coasts and at 46 stations on the Pacific coast.

(294) *Small-craft warnings.*—A red pennant indicates that moderately strong winds are expected.

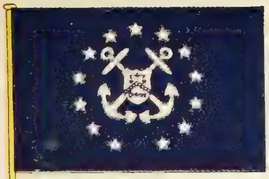
(295, 296, 298, 299) *Storm warnings.*—A red flag, with a black center, indicates that a storm of marked violence is expected.

The pennants displayed with the flags indicate the direction of the wind: Red, easterly; white, westerly. The pennant above the flag indicates that the wind is expected to blow from the northerly quadrants; below, from southerly quadrants.

(297) By night a red light indicates easterly winds, and a white light below a red light westerly winds.

(300) *Hurricane warnings.*—Two red flags, with black centers, displayed one above the other, indicate the expected approach of a tropical hurricane, or one of those extremely severe and dangerous storms which occasionally move across the Lakes and northern Atlantic coast.

Small-craft and hurricane warnings are not displayed at night.


SECRETARY TREASURY
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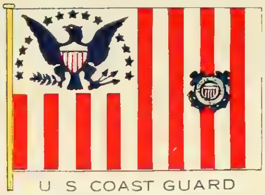
U S COAST GUARD
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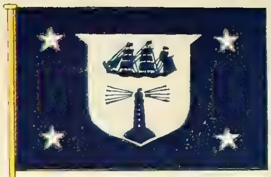
SECRETARY COMMERCE
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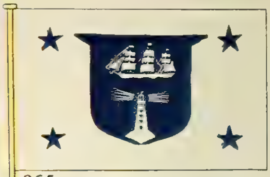
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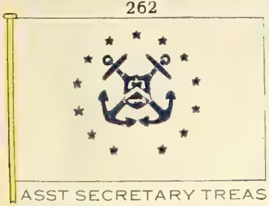
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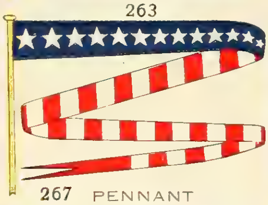
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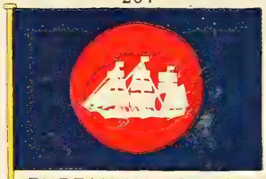
U. S. COAST GUARD


BUREAU NAVIGATION
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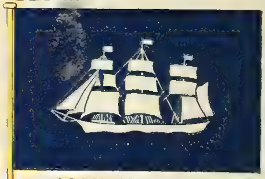
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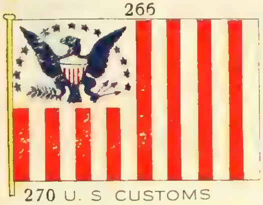
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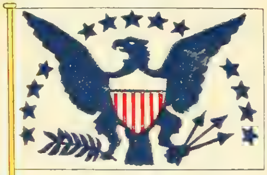
JACK—COAST GUARD
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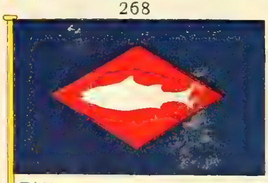
BUREAU OF FISHERIES
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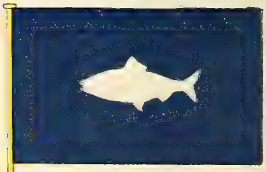
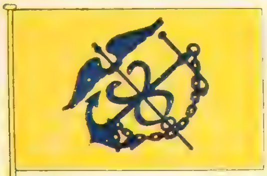

COMMISSIONER
273 FISHERIES


274 U S PUBLIC
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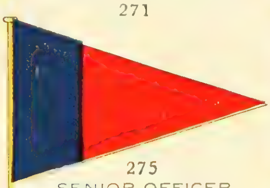
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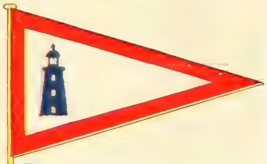
SENIOR OFFICER
PRESENT PENNANT


BUREAU LIGHTHOUSES
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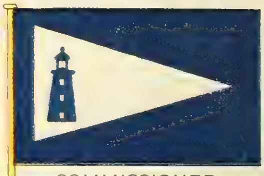
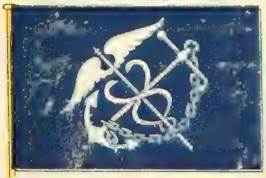

COMMISSIONER
277 LIGHTHOUSES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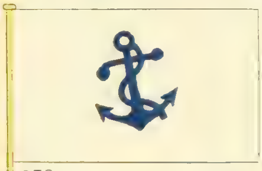
PUBLIC HEALTH SERVICE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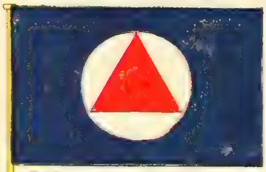
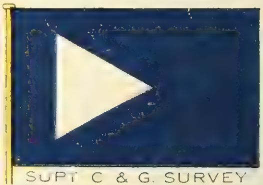
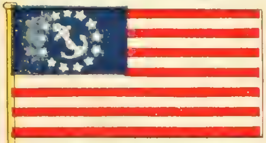
ANCHORAGE FLAG


280 COAST &
GEODETIC SURVEY


SUPT C & G. SURVEY
281 DEPT. AGRICULTURE
WEATHER
BUREAU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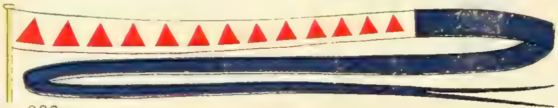
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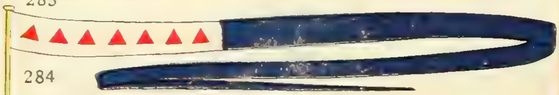
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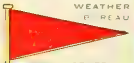
PENNANTS U. S. COAST & GEODETIC SURVEY


SMALL CRAFT
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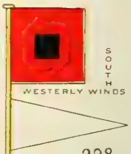
SOUTH WESTERLY WINDS
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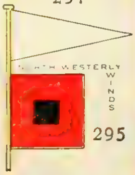
NORTH WESTERLY WINDS
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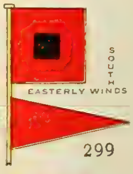
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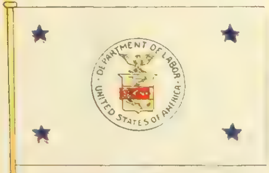
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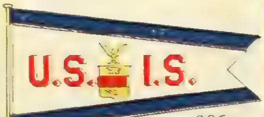

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U S
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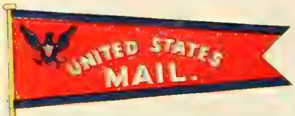

U. S MAIL VESSELS
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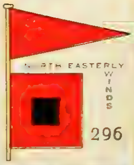
NORTH EASTERLY WINDS
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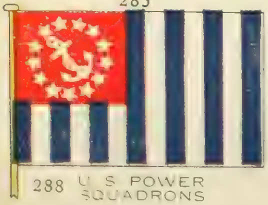
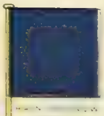

288 U S POWER
SQUADRONS

CLEAR OR FAIR WEATHER
289


RAIN OR SNOW
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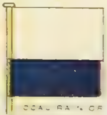
LOCAL RAIN OR SNOW
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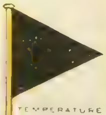
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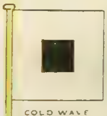
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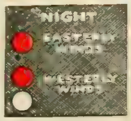
WEATHER FORECAST FLAGS



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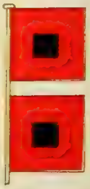
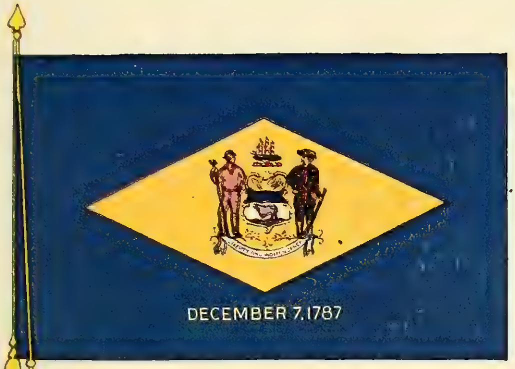

HURRICANE
300



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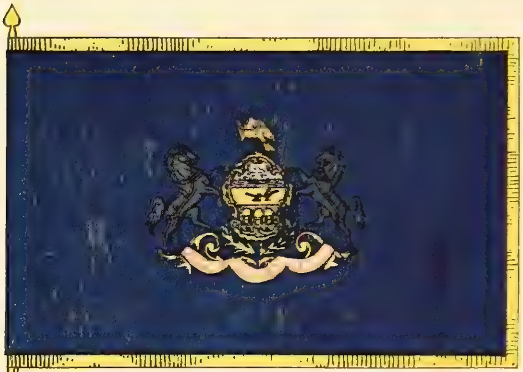

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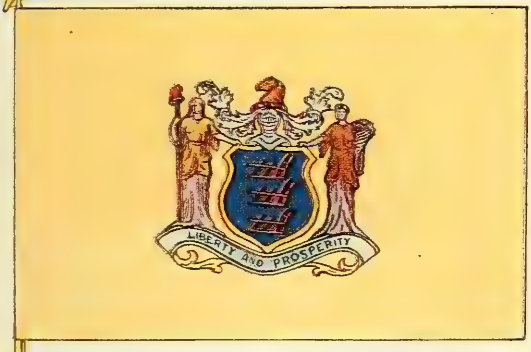

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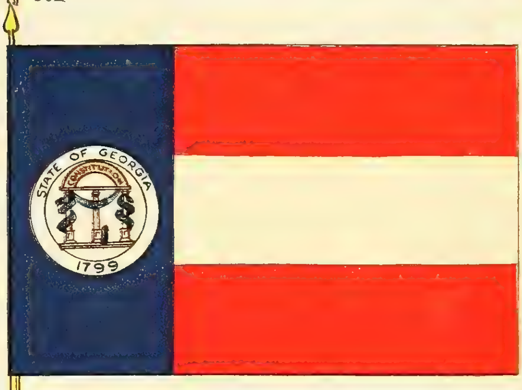

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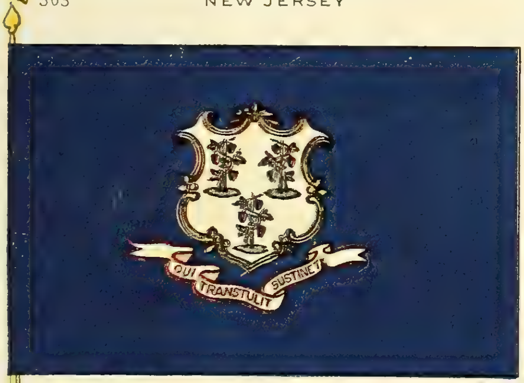

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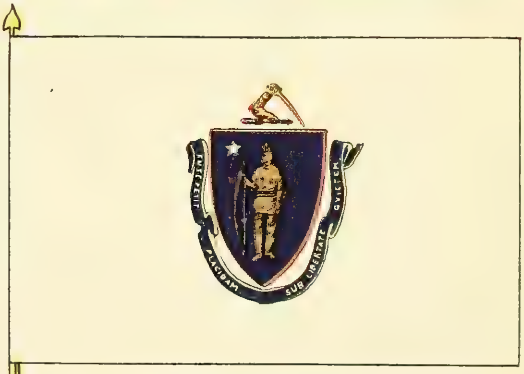
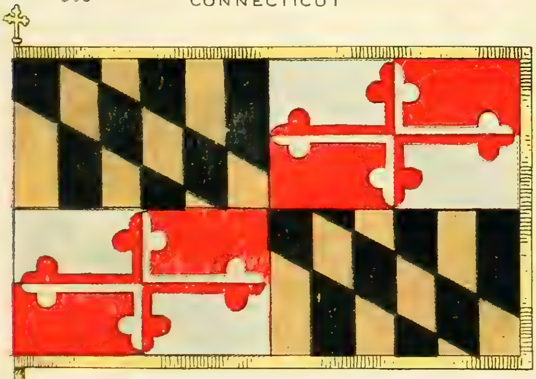
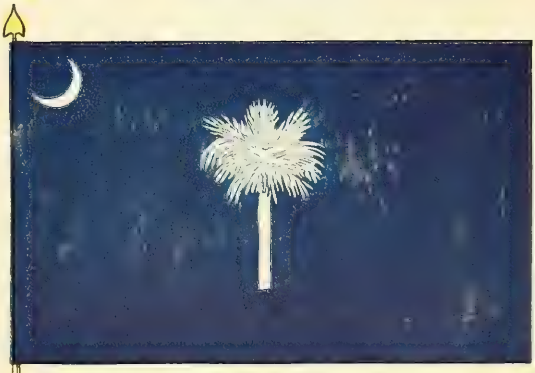

ENSE PETIT PLACIDAM SUB LIBERTATE QUIETEM

306 MASSACHUSETTS



307 MARYLAND



308 SOUTH CAROLINA

Photograph by Paul Thompson

WHEN THE COMMANDER-IN-CHIEF OF THE NAVY REVIEWS THE FLEET

To the left is seen the U. S. S. *Mayflower*, the presence of the President on board being indicated by his flag which flies from the main mast. In the central foreground is an American battleship, full dressed, displaying its largest ensign, its jack, and its rainbow of signal flags. The presidential salute of 21 guns is being fired by the battleship.

OUR STATE FLAGS

ON PAGES 323 to 334, for the first time in the history of the United States, the flags of our 48 States are reproduced in colors in one publication.

The flags have been arranged in the order that the respective States joined the Union. If the first numeral of each number be omitted, the relative age of the State is at once apparent; for instance, Michigan, 326, is the twenty-sixth State, Maine, 323, the twenty-third, and Oklahoma, 346, the forty-sixth.

Unless otherwise stated, both sides of a flag are the same in design.

These flag emblems combine much that is beautiful, historic, and inspiring, and cannot fail to thrill the heart of every American; but an observer may perhaps wish that there was not such a uniformity in design. About one-half of the States use the same blue ground with the State seal inscribed in the center, with the result that these flags are all so similar that it is very difficult to distinguish one from the other at a short distance.

Such designs as Maryland, 307; Arkansas, 325, and California, 331, etc., are easily distinguishable at considerable distances.

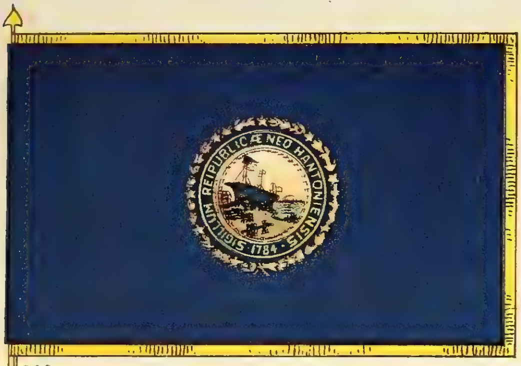
Many of these flags are soon to fly on European battlefields for the first time in history, borne by the National Guard of the several States, now mustered into the Federal service. Some of these State emblems will receive their baptism of fire, and to the men fighting under these colors will be entrusted the proud distinction of winning the first silver bands which encircle the staffs of their regimental standards, thus perpetuating the story of each unit's worthy achievements.

301. DELAWARE.—A commission consisting of the Secretary of State, the President *pro tempore* of the Senate, and the Speaker of the House of Representatives, created under the laws of Delaware, for the purpose of selecting a State flag and colors, made a report in 1914, which, while not adopted by the legislature itself, has been accepted as official. It consists of a field of colonial blue, upon which is imposed a diamond of buff which bears the coat-of-arms of the State of Delaware. Underneath the diamond there appears the following inscription: "December 7th, 1787." A flag has been recorded in the office of Recorder of Deeds for Kent County and a duplicate filed in the office of the Secretary of State at Dover.

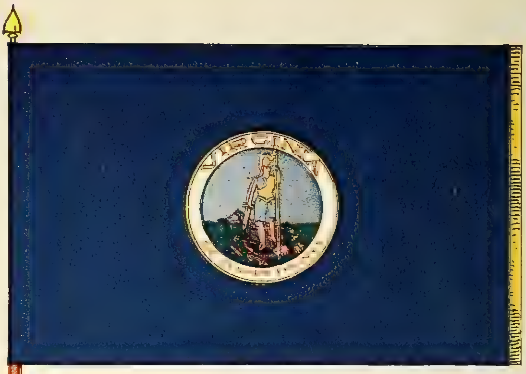
302. PENNSYLVANIA.—With a field of blue of the same shade as that of the flag of the United States, the State flag of Pennsylvania, officially described in the law of June 13, 1907, bears the coat-of-arms of the State in the center on both sides. The length of the staff is nine feet, including the brass spearhead and ferrule. The fly of the flag is six feet two inches and its width four feet six inches. The edges are trimmed with knotted fringe of yellow silk, two and one-half inches wide. A cord with tassels attached to the spearhead is eight feet six inches long and composed of white and blue silk strands. The coat-of-arms of the State consists of a shield with a ship sailing on an ocean in the upper third, two plows in the middle section, and three sheaves of wheat in the lower section. Two harnessed horses rampant support the shield; an eagle with outstretched wings forms its crest, and below it is a streamer carrying the motto, "Virtue, Liberty and Independence."

303. NEW JERSEY.—Under a resolution approved March, 1896, the flag of the State of New Jersey is of buff color, having in the center thereof the arms of the State properly emblazoned. This flag is the headquarters flag of the Governor as Commander-in-Chief, but does not supersede the distinctive flags which are or may hereafter be prescribed for different arms of the military or naval service of the State. When the measure was pending in the New Jersey Legislature, a memorandum was submitted showing why buff was chosen. This memorandum states that in 1779 the Continental Congress by resolution authorized and directed the Commander-in-Chief to prescribe uniforms both as to color and facings for the regiments of the New Jersey Continental Line. Accordingly, General Washington in general orders directed that the coat of such regiments should be dark blue, faced with buff. Later it was ordered that the flag of the State troops should have a ground to be the color of the facing. Thus the New Jersey flag became buff under orders of the Father of his Country. The memorandum also states that Washington elected buff facings for the New York and New Jersey troops, because New York and New Jersey were originally settled by the Dutch, and Jersey blue and buff figured in the Netherlands insignia. It was displayed in view of the combined French and American armies in the great culminating event of the Revolution, the capitulation of the British army under Cornwallis at Yorktown.

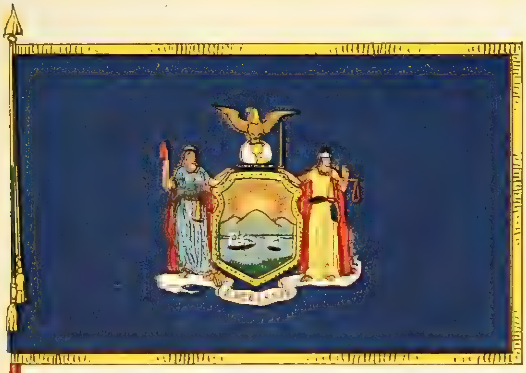
304. GEORGIA adopted a State flag in 1879. It has a perpendicular blue bar from top to bottom next to the staff, with three horizontal bars—red, white, and red. On the blue per-



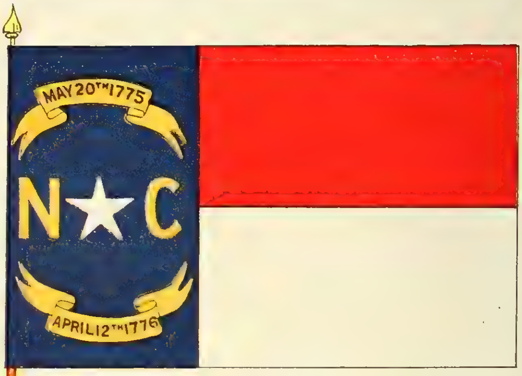
309 NEW HAMPSHIRE



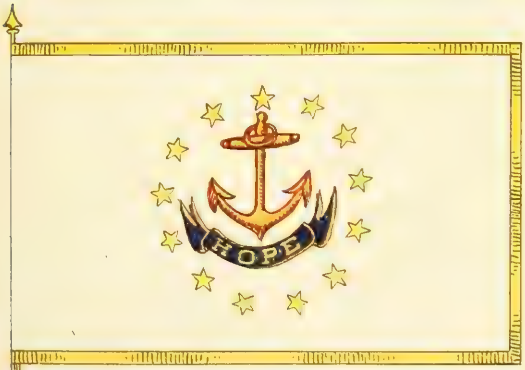
310 VIRGINIA



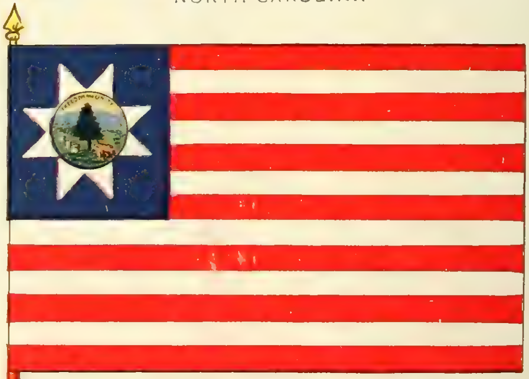
311 NEW YORK



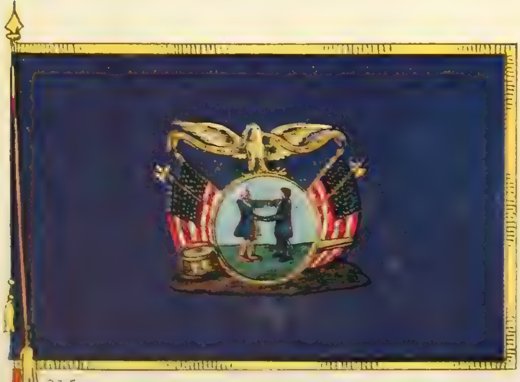
312 NORTH CAROLINA



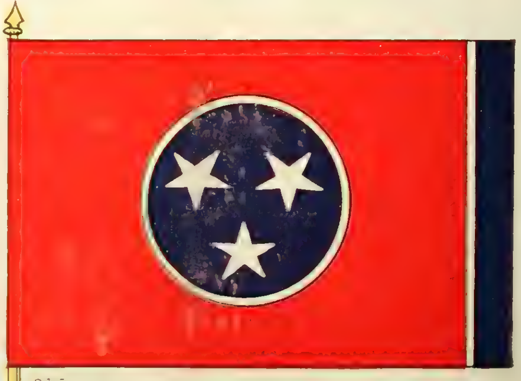
313 RHODE ISLAND



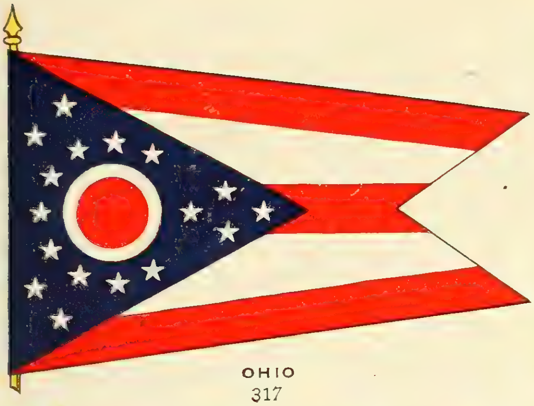
314 VERMONT



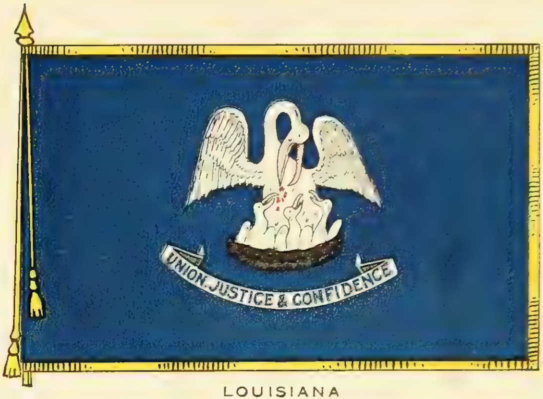
315 KENTUCKY (UNOFFICIAL)
NO STATE FLAG



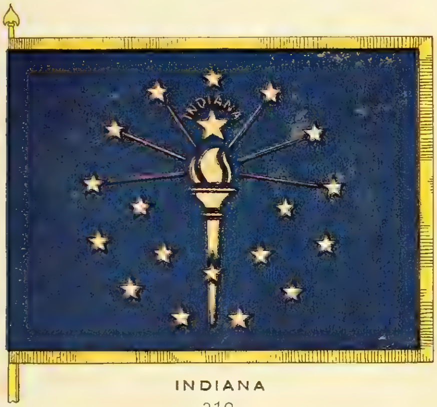
316 TENNESSEE



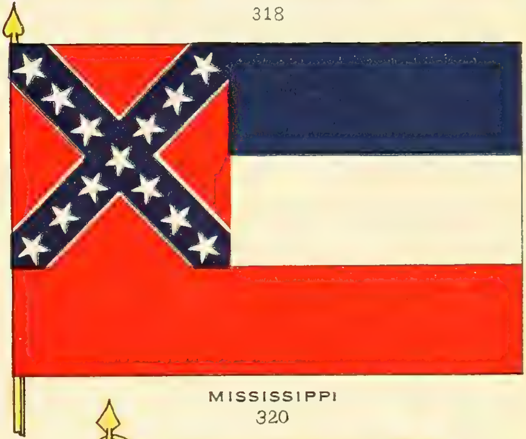
OHIO
317



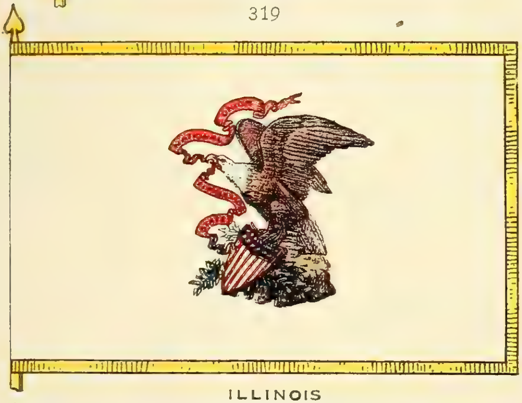
LOUISIANA
318



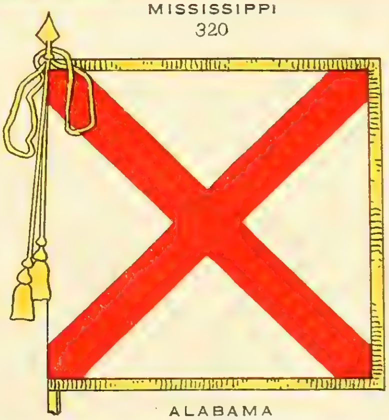
INDIANA
319



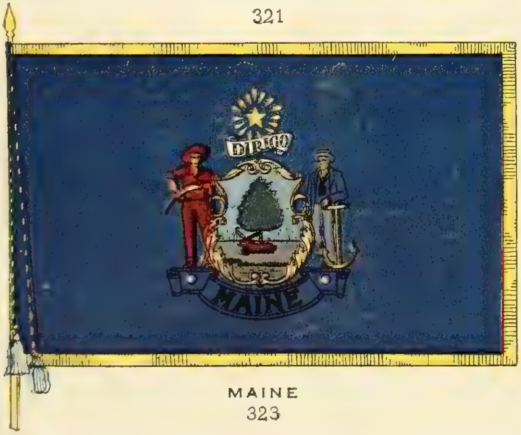
MISSISSIPPI
320



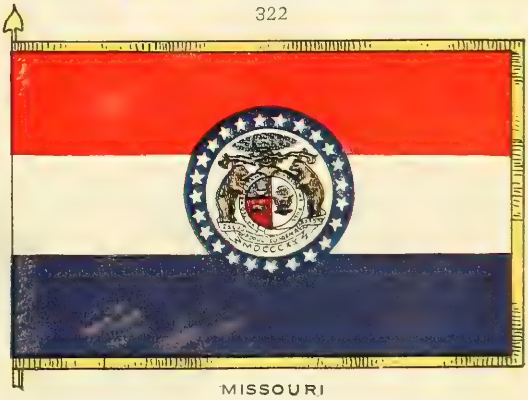
ILLINOIS
321



ALABAMA
322



MAINE
323



MISSOURI
324

pendicular bar appears the coat-of-arms of the State. This coat-of-arms has three pillars supporting an arch with the word "Constitution" engraved thereon. The three departments of government are supposed to be represented by the three pillars. On the pillars are engraved the words "Wisdom," "Justice," "Moderation," these words being supposed to typify the legislative, executive, and judicial branches of the State government.

305. CONNECTICUT'S colors consist of a dark blue background, bearing the State seal in the center. The seal has three grape vines, representing the three original colonies of Connecticut — Hartford, Windsor, and Wethersfield. Beneath the vines is the State motto, "Qui transtulit sustinet." The Connecticut State flag was adopted by the General Assembly in 1897. Its dimensions are five feet six inches by four feet four inches. The Latin inscription is a survival of the Nutmeg State's Colonial banner and, freely translated, means, "He who brought us over sustains us."

306. MASSACHUSETTS.—By a law approved in 1908 the flag of the Commonwealth bears on one side a representation of the coat-of-arms of the State, upon a white field, and on the other side a blue field bearing the representation of a green pine tree against a white background. When carried as colors by troops, or otherwise, the flag is bordered by a fringe and surmounted by a cord and tassels, the fringe, cord, and tassels being of golden yellow. The staff is of white ash or wood of similar light color, tipped with a spearhead of gilt. The coat-of-arms was authorized under a law of 1885. It consists of a shield having a blue field, with an Indian man, dressed in shirt, hunting breeches, and moccasins, holding in his right hand a bow and in his left hand an arrow pointing downward, all of gold; in the upper corner of the field above his right arm is a silver star with five points. The crest is a wreath of blue and gold, whereon, in gold, is a right arm, bent at the elbow, clothed and ruffled, with the hand grasping a broad sword. The motto is "Ense petit placidam sub libertate quietem."

307. MARYLAND.—One of the oldest flags in the world at the date of its official adoption, the State flag of Maryland is unique in design and striking in its history. Although it was the flag of the proprietary government of Maryland generations before American independence was dreamed of, and has continued in use from that day to this, it was not officially adopted until 1904. It represents the escutcheon of the paternal coat-of-arms of Lord Baltimore. After reciting that it is eminently fitting that, by reason of its historic interest and meaning, as well as for its beauty and harmony of colors, the flag adopted should be one which from the earliest settlement of the province to the present time has been known and distinguished as the flag of Maryland, the resolutions then provide that the first and fourth quarters consist of six vertical bars, alternately gold and black, with a diagonal band on which the colors are reversed; the second and third quarters consist of a quartered field of red and white, charged with a Greek cross, its arms terminating in trefoils, with the colors transposed, red being on the white ground and white on the red, and all being represented as on the escutcheon of the present great seal of Maryland. The flag always is to be so arranged upon the staff as to have the black stripes on the diagonal band of the first quarter at the top of the staff. It is to be displayed from the State House at Annapolis continually during the session of the General Assembly and on such other public occasions as the Governor of the State shall order and direct.

308. SOUTH CAROLINA'S flag is reminiscent of secession times. Following that State's withdrawal from the Union, its legislature decided that it was a separate nation and should have a national banner. A resolution was therefore adopted in 1861 providing that "the national flag or ensign of South Carolina should be blue, with a golden palmetto upright upon a white oval in the center thereof, and a white crescent in the upper flagstaff corner of the flag." Two days later a resolution was adopted by the two houses providing that the white medallion and golden palmetto be dispensed with and in their place a white palmetto inserted. From that time to this South Carolina has had a blue flag, with the white crescent and the white palmetto. When the State entered the Confederate Union its national flag became the State flag, and continues such to this day. In 1910 a law was made providing that State flags should be manufactured in the textile department of Clemson College and sold at approximate cost to the people. Another provision is that the State flag shall be displayed daily, except in rainy weather, from the staff of the State House and every court house, one building of the State University, and of each State college, and upon every public-school building except during vacation. Any person who maltreats or desecrates a flag of the State, wherever displayed, shall be guilty of a misdemeanor, and upon conviction punished by a fine of not more than a hundred dollars or imprisonment for not more than thirty days.

309. NEW HAMPSHIRE had no State flag authorized and described by law until 1909. In that year an act was adopted providing that the flag should be blue, bearing upon its center in suitable proportions and colors a representation of the State seal. The inscription is as follows: "Sigillum Republicæ Neo Hantoniesis 1784" (Seal of the Commonwealth of New Hampshire). The shield is surrounded by a wreath of laurel leaves with nine stars interspersed. When used for military purposes, the flag is to conform to the regulations of the United States. Under this law New Hampshire's flag is to be displayed above the State House whenever the legislature is in session, and during meetings of the Governor and council when expedient, and upon such other occasions as the Governor may designate. During the Civil War, New Hampshire regiments carried yellow-fringed white flags, with blue and white cords and tassels, bearing on one side the State coat-of-arms and on the other that of the United States.

310. VIRGINIA'S flag is of blue bunting, sixteen by twenty feet, with a circular white ground in the center, in which the seal of the

State is placed. The State convention of 1861 passed an ordinance providing that "the flag of the Commonwealth shall hereafter be made of bunting, which shall be a deep blue field, with a circle of white in the center, upon which shall be painted or embroidered, to show on both sides alike, the coat-of-arms of the State as described by the convention of 1776, for one side (obverse) of the seal of the State." This seal portrays Virtus, the genius of the Commonwealth, dressed like an Amazon, resting on a scale at one hand and holding a sword in the other, treading on Tyranny, represented by a man prostrate, a crown fallen from his head, a broken chain in his left hand, and a scourge in his right. In the exergue the word "Virginia" appears over the head of Virtus, and underneath the words "Sic semper tyrannis" (Thus ever to tyrants). The seal of Virginia was prepared by a committee of which Richard Henry Lee and George Mason were members, and was adopted on the fifth day of July, 1776, one day after the Declaration of Independence was proclaimed.

311. NEW YORK adopted its present State flag in 1909. The law provides that it shall be blue, charged with the arms of the State in the center. These arms, dating from March 16, 1778, rival in beauty the insignia of any other State in the Union (see also 394). On the shield is the sun rising in golden splendor behind a range of three mountains. At the base of the central mountain a ship and sloop are shown under sail, about to meet on a river bordered by a grassy shore. An American eagle with outspread wings, rising from a globe showing the north Atlantic Ocean with outlines of its shores, forms the crest. The shield is supported on the right by a blue-robed figure of Liberty, her hair flowing and decorated with a coronet of pearls. In her right hand she holds a staff crowned with a Phrygian cap of gold. At her feet a royal crown is cast. The figure on the left is golden-robed Justice, crowned with pearls, her eyes bound, and in her left hand the familiar scales. On a scroll beneath the shield is the motto, "Excelsior."

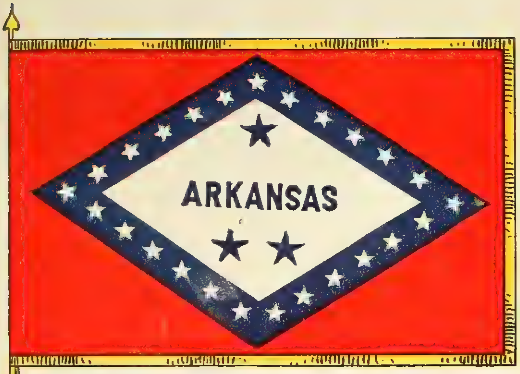
No State has been more careful in guarding the national flag, as well as its own emblem, from desecration or improper use than the Empire Commonwealth. Its laws are most explicit and far-reaching in providing penalties for the misuse of official flags for advertising purposes, or for defacing, trampling upon, or mutilating State and national colors and standards. To stimulate patriotism and reverence for the national flag, the New York legislature has directed that "it shall be the duty of the school authorities of every public school in the several cities and school districts of the State to purchase a United States flag, flagstaff, and necessary appliances, and to display such flag upon or near the public-school building during school hours, and at such other times as school authorities may direct." When the weather does not permit the flag's display in the open it is placed conspicuously in the principal room in the school-house.

312. NORTH CAROLINA.—The law prescribing the present State flag was enacted in 1885. It provides that the flag shall consist of a blue union containing in the center a white star with the letter "N" in gilt on the left and the letter "C" in gilt on the right of the star, the circle containing this design being one-third of the union. The fly of the flag consists of two equally proportioned bars, the upper red and the lower white. The length of the bar horizontally is equal to the perpendicular length of the union. The total length of the flag is one-third more than the width. A law enacted in 1907 provides that the State flag shall be flown above every State institution and public building except in inclement weather. It also provides that the several Boards of Supervisors of the counties shall either display the flag on the court-house staff or drape it behind the judge's stand. These Boards may display the flag on such public occasions as they deem proper.

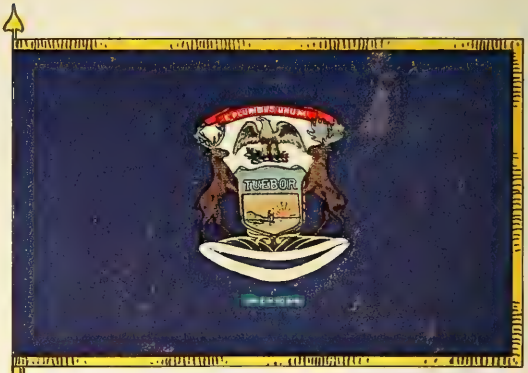
313. RHODE ISLAND.—Although some authorities believe that the stars of the American colors originated in Rhode Island's colonial colors (see also 396), it was not until 1877 that this State came to have an official flag. The flag law was revised in 1882, and again in 1897, when the existing banner was established. It is of white, five feet six inches fly, and four feet ten inches deep, on a pike, bearing on each side in the center a gold anchor twenty-two inches high, and underneath it a blue ribbon twenty-four inches long and five inches wide, or in these proportions, with the motto, "Hope," in gold letters thereon, the whole surrounded by thirteen golden stars in a circle. The flag is edged with yellow fringe. The pike is surmounted by a spear head, its length being nine feet, not including the spear head. The flag of 1877 used blue for anchor, motto, and stars, red for the scroll, and white for the field. That of 1882 had a blue field in which a golden anchor and thirteen golden stars were centered. The flag of 1877 had as many stars as States, but the later flags went back to the original thirteen.

314. VERMONT'S flag, adopted in 1862, consists of thirteen stripes, alternately red and white, with a canton of blue, on which rests a single star of white, with the State coat-of-arms thereon. The scene represented on the coat-of-arms is an actual mountain and harvest landscape in Vermont. The outlines of the mountains are those of Camel's Hump and Mansfield, as seen from Lake Champlain. While the records of Vermont disclose no authority for a coat-of-arms or a flag prior to the act of September, 1866, this device appears on a State seal procured in 1821 under the order of the executive by Robert Temple, Esq., then the secretary of the Governor and Council.

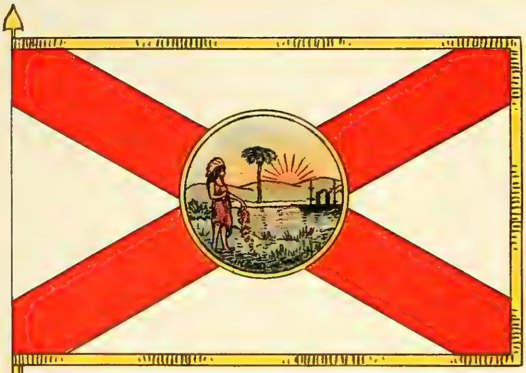
315. KENTUCKY.—So far as a careful search of the records of the State reveal, Kentucky has never by legislative action adopted an official flag. In 1880, however, a Board was convened by general order, under the Adjutant General, to consider and report a flag design for the use of the State guard. Its report was adopted with some modification, and by general order a State flag was prescribed for the guard and reserve militia when called into service. This consists of a blue field with the arms of the State embroidered in the center. On the escutcheon appear two men apparently shaking hands. The escutcheon is surmounted



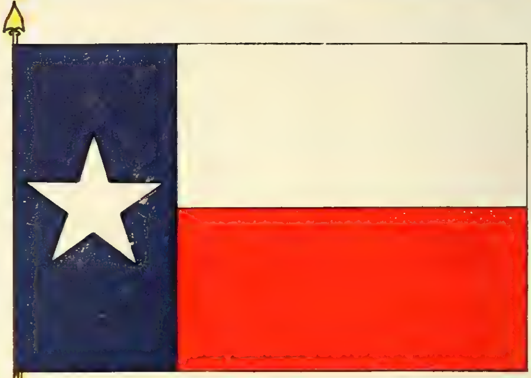
325 ARKANSAS



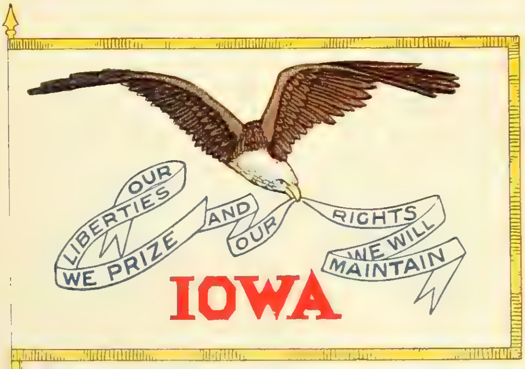
326 MICHIGAN



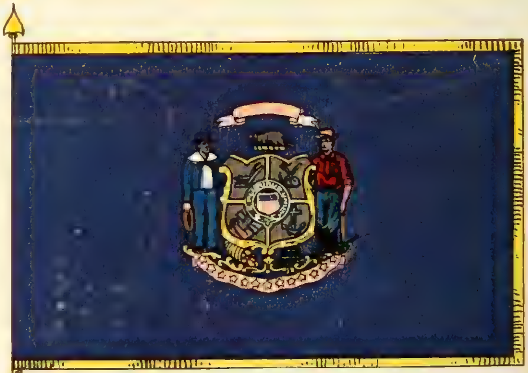
327 FLORIDA



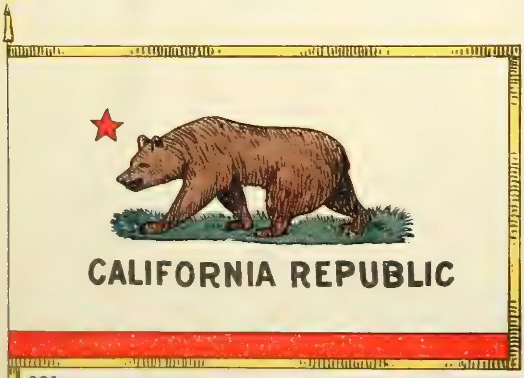
328 TEXAS


OUR LIBERTIES WE PRIZE
AND OUR RIGHTS WE WILL MAINTAIN
IOWA

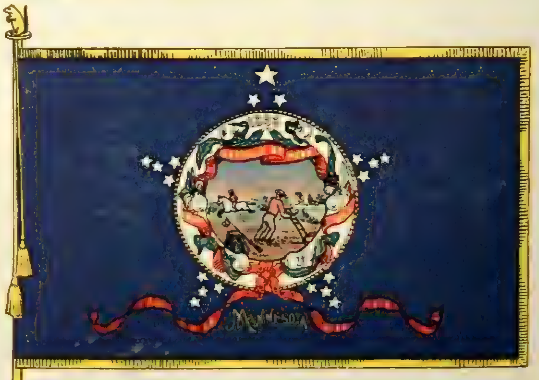
329 IOWA



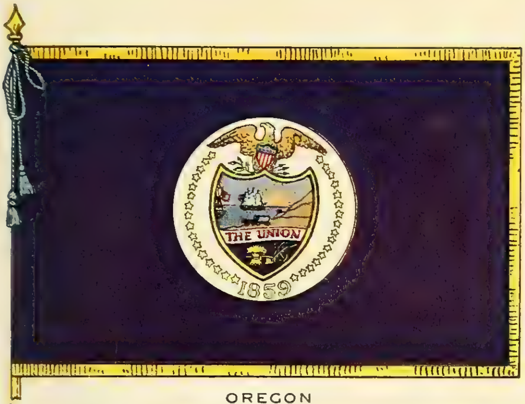
330 WISCONSIN



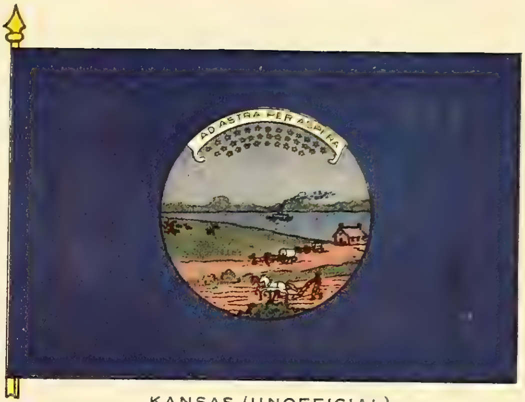
331 CALIFORNIA



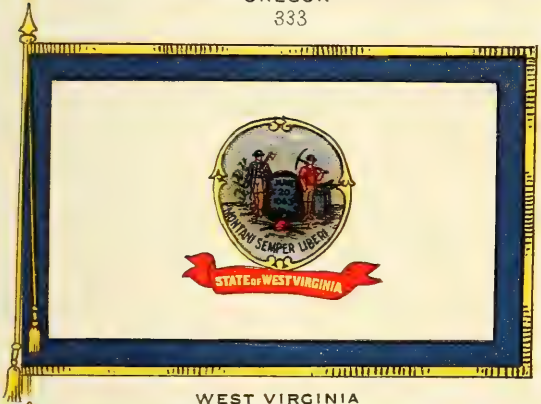
332 MINNESOTA



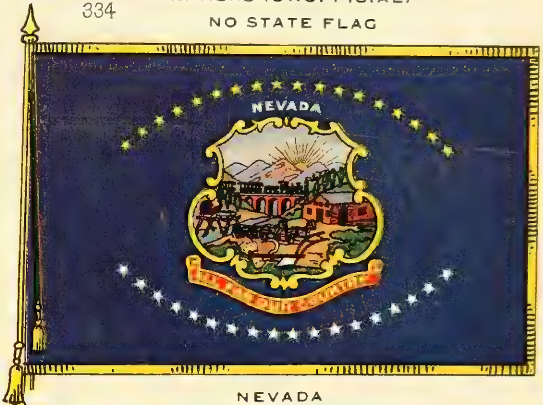
OREGON
333



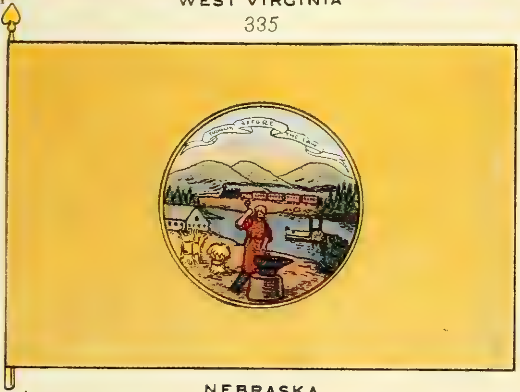
334 KANSAS (UNOFFICIAL)
NO STATE FLAG



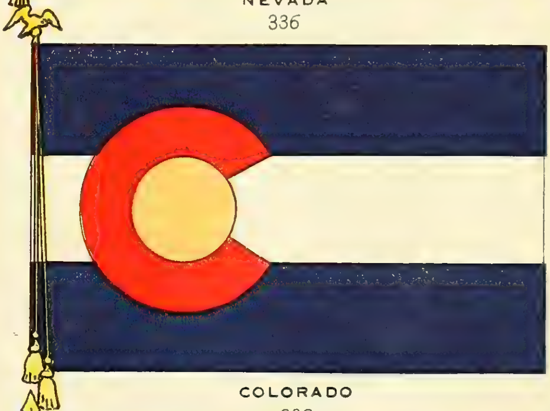
WEST VIRGINIA
335



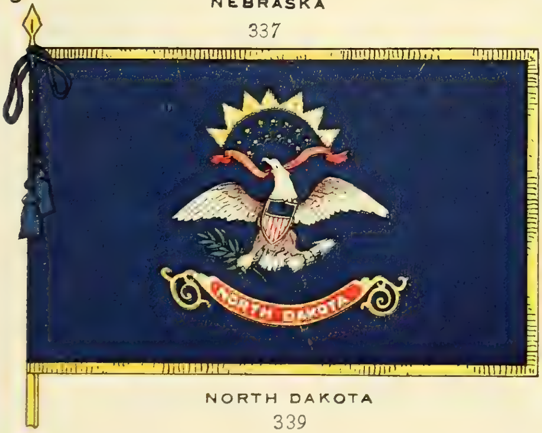
NEVADA
336



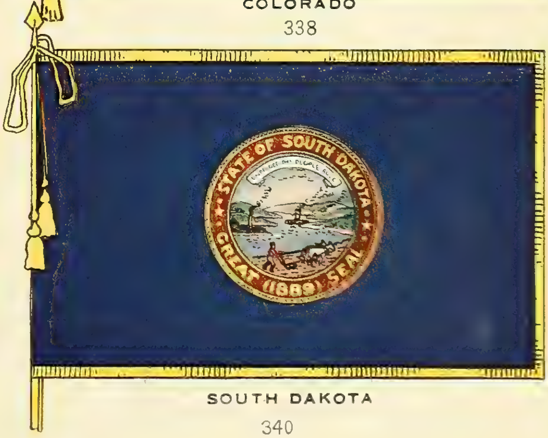
NEBRASKA
337



COLORADO
338



NORTH DAKOTA
339



SOUTH DAKOTA
340

by an eagle bearing in its beak a streamer carrying the legend, "United We Stand, Divided We Fall." It is said that the original intention of the seal was to represent two friends in hunter's garb, their right hands clasped, their left resting on each other's shoulders, their feet on the verge of a precipice, which gave significance to the legend. But the engravers for the State have uniformly dressed the figures more to suit their ideals, with varying heraldic effect. The escutcheon is supported by four United States flags, a drum, and a cannon.

316. TENNESSEE. — This unique flag was adopted in 1905. It consists of a fly one and two-thirds times as long as it is wide. At the outer or free end is a blue bar separated from the red field by a thin white stripe. Superimposed upon the red field is a circular disk of blue separated from the field by a thin circle of white, its width the same as the width of the white stripe separating the blue bar from the red field. Upon the blue of the circular disk are arranged three five-pointed stars of white, distributed at equal intervals around a point which is the center of the blue field. Tennessee was the third State to join the Union (after the original thirteen), a fact which the three stars recall.

317. OHIO has the only pennant-shaped flag among all the States. The law making it the official ensign of the "Buckeye State" was adopted in 1902. The outer quarter of the field is swallow-tailed, the field itself consisting of five stripes—three red and two white—red at the bottom and top. At the staff end of the field is a triangular blue canton with the base resting on the staff and the apex reaching half way across the field. On this canton is a large circular "O" in white, inside of which is a red disk. Seventeen stars, representing all of the States at the time of Ohio's entrance into the Union, appear grouped around the circular "O." All of these stars are five-pointed.

318. LOUISIANA.—Those who contend that the Stars and Stripes were used unofficially long before they were adopted by the Continental Congress, on June 14, 1777, can point to the history of the Louisiana State flag as showing that banners are often used unofficially long before being officially adopted. It is said that this flag is a hundred years old, having become the unofficial flag of Louisiana about the time of the War of 1812, yet it was not legally adopted until July 1, 1912. The measure making it the flag of the State is simply a statute of ratification, and sets forth that it shall consist of a solid blue field with the coat-of-arms of the State, a pelican feeding its young, the ribbon beneath, also in white, containing in blue the motto of the State, "Union, Justice, Confidence." The law provides that the flag shall be displayed on the State House whenever the General Assembly is in session and on public buildings throughout the State on all regular holidays and whenever otherwise decreed by the Governor or the General Assembly.

319. INDIANA.—Although the legislature of the State of Indiana declared in 1901 that its official banner should be no other than the American flag itself, it reconsidered this action in 1917 and adopted a State emblem. The field of the flag is blue; its dimensions are five feet six inches fly by four feet four inches on the staff, and upon the field is centered a flaming torch in gold, or buff, with nineteen stars. Thirteen stars are circled around the torch, representing the original thirteen States. Inside this circle is a half circle of five stars below the torch, representing the five States admitted to the Union prior to Indiana. The outer circle of stars is so arranged that one of them appears directly in the middle at the top of the circle. The word "Indiana" is placed in a half circle over a large star, typifying the State, which is situated just above the flame of the torch. Rays from the torch radiate to the three stars of the outer circle. This banner is to be carried in addition to the American flag by the militia forces of Indiana and in all public functions in which the State officially appears.

320. MISSISSIPPI is one of the States that have had more than one flag. The old flag was white with a blue canton with a single white star thereon. On the body of the white was a green tree. The flag was fringed with red and the pike was surmounted by a tomahawk. After the Civil War the State adopted a new flag. This consists of a blue, white, and red field, the red at the bottom, with a red canton reaching down to the red stripe of the field. A St. Andrew's cross with thirteen stars is imposed upon the canton. The tomahawk of the old flagstaff is replaced on the new pike by a regulation spear head.

321. ILLINOIS' State flag was authorized in the year 1915. The law provides that the reproduction of the emblem on the great seal of Illinois be permitted when reproduced in black or in natural colors on a white background for use as a State banner. The seal of the State of Illinois was adopted in 1819, the year after the State was admitted to the Union. In the center is an American eagle perched on an American shield; back of the shield and helping to support it is an olive branch. In its beak the eagle holds a scroll containing the motto, "State Sovereignty—National Union."

322. ALABAMA'S colors were adopted by the act of February 16, 1895, which provides that the flag of the State shall be a crimson cross of St. Andrew upon a field of white; the bars forming the cross shall be not less than six inches broad, and must extend diagonally across the flag from side to side. The flag shall be hoisted on the dome of the capitol when the two houses of the legislature are in session, and shall be used by the State on all occasions when it may be necessary or consistent to display a flag, except when in the opinion of the Governor the national flag should be displayed. It is said that the purpose of the legislature in enacting the State flag law was to preserve in permanent form some of the more distinctive features of the Confederate battle flag, especially the St. Andrew's cross (see 375). This being true, the Alabama flag should be square in all its lines and measurements and conform to the well-known battle flag of the Confederacy.

323. MAINE'S present flag dates from the year 1909. It consists of a field of blue, the same color as the blue field in the flag of the United States, the flag being five feet six inches long and four feet four inches wide. In the center there is embroidered in silk on both sides the coat-of-arms of the State, in proportionate size. The edges of the flag are trimmed with modern fringe of yellow silk two and a half inches wide. A cord and tassel, to be attached to the staff at the spearhead, is eight feet six inches long and composed of white and blue strands. The length of the staff is nine feet, including the brass spearhead and ferrule. The laws protecting the State flag are the same as those protecting the national flag. Any one who uses it for purposes of advertisement or who mutilates, tramples, or otherwise defaces or defiles it, whether public or private property, shall be punished by a fine of not less than five nor more than fifty dollars.

324. MISSOURI formally adopted an official flag in 1913. It is rectangular in shape, the vertical width being seven-twelfths the horizontal length. The field consists of one red, one white, and one blue horizontal stripe of equal width, the red at the top and the blue at the bottom. In the center there is a band of blue in the form of a circle inclosing the coat-of-arms in the colors established by law. The width of the blue band is one-fourteenth the vertical width of the flag, and the diameter of the circle is one-third the horizontal length of the flag. In the blue band there are set at equal distances from each other twenty-four five-pointed stars. Within the circle on a ground of white is the coat-of-arms of the State. The sinister (left) half of the circular shield shows the American eagle as it appears upon the great seal of the United States. The upper dexter (right) quarter is blue, with a white crescent. The lower dexter quarter is red, with a grizzly bear. It is supported by two grizzly bears.

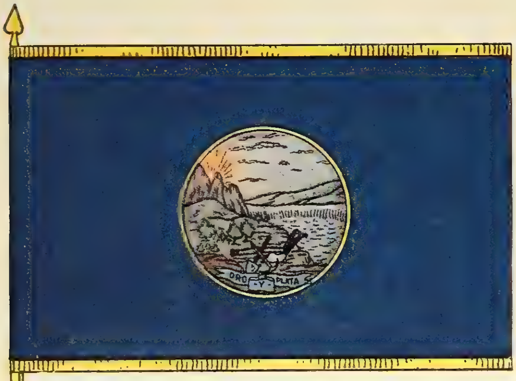
325. ARKANSAS as early as 1876 used an official State flag at the Centennial Exposition in Philadelphia. This was a red field bearing the arms of the State. But this design was never recognized by the legislature. Instead, in 1913, a committee, of which the Secretary of State was chairman, examined a number of designs and selected one for the emblem of the Commonwealth. This the General Assembly adopted by concurrent resolution, approved February 26, 1913. It consists of a red field upon which is imposed a blue-bordered white diamond bearing the word "Arkansas" and three five-pointed stars, in blue. On the blue border of the diamond are twenty-five five-pointed white stars, which proclaim the fact that Arkansas was the twenty-fifth State to become a part of the American Union.

326. MICHIGAN'S present flag dates from 1911, when an act was passed to adopt and prescribe the design of the coat-of-arms and a State flag, and their use, and also to prohibit their desecration in any way. The law provides that the flag of the State shall be blue, with the coat-of-arms superimposed on the center. The coat-of-arms consists of the device and inscription of the great seal of the State presented by Lewis Cass through the constitutional convention held preliminary to its admission into the Union. Only the words "The Great Seal of the State of Michigan, A. D. 1835," are omitted. The coat-of-arms consists principally of a shield with the device "Tuebor" (I will defend), supported by an elk and a moose, rampant. An American eagle with wings outstretched forms the crest. On the lower part of the shield is a rising sun and a man, dressed in rustic garb, standing on a peninsula, his right arm raised and his left resting on a gun stock. On an unending scroll below appears the motto, "Si quaeris peninsulam, amoenam, circumspice" (If thou seekest a beautiful peninsula, look around).

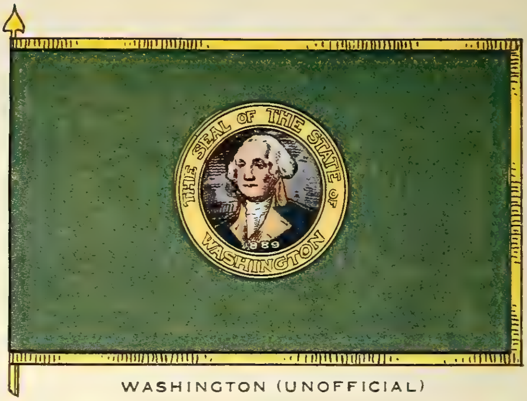
327. FLORIDA has had several State flags, but the present one dates from 1899. In that year the Florida Legislature adopted a joint resolution providing that the dimensions of the flag should be three-fourths as wide as long, and that in the center of the field should be placed the seal of the State, its diameter to be one-third the length of the flag and its ground to be white. Red bars with the width one-eighth the length of the flag extending from each corner toward the center to the outer rim of the seal. In the seal appears a view of the sun's rays, a highland in the distance, a cocoanut tree, a steamboat on water, and an Indian woman scattering flowers in the foreground. The words "In God We Trust" appear on the inner rim of the device. Florida's seal was adopted by the Constitutional Convention of 1868 and has been ratified by succeeding conventions.

328. TEXAS.—The lone star flag of Texas dates from the days of the Republic. The third Congress of the embryo nation fixed its design, which has never been altered. It consists of a blue perpendicular bar next to the staff, one-third the length of the flag, with a star of five points in the center. The other two-thirds of the flag is made up of two horizontal bars, of equal width, one white and the other red, the white at the top. Some years ago a hoodlum committed an act of desecration against the flag, which was roundly punished by a native Texan. The State legislature was so pleased with the performance that it passed a special act commending the man who had thrashed the offender.

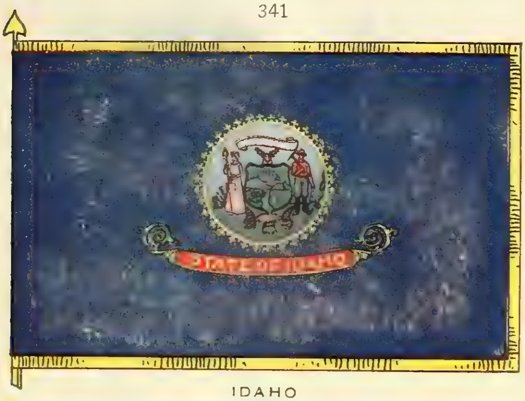
329. IOWA is the latest recruit to the list of States having an officially adopted flag. On May 11, 1917, the State Regent of the Daughters of American Revolution submitted a design to the War Council of Iowa, which promptly approved it. The design was copyrighted and the committee having charge of its preparation was extended a vote of thanks by the Council. The flag as adopted consists of a field of white, on the upper half of which is an eagle in natural colors in flight, carrying in its beak a long pennant upon which appear the words "Our Liberties We Prize And Our Rights We Will Maintain." Below this pennant appears in large block type the word *Iowa*. The national colors are preserved, the field being white, the lettering of the motto blue, and the word Iowa red. The flag will be of regulation size and form, and copies of it are to be widely distributed by the Daughters of the American Revolution throughout the State.



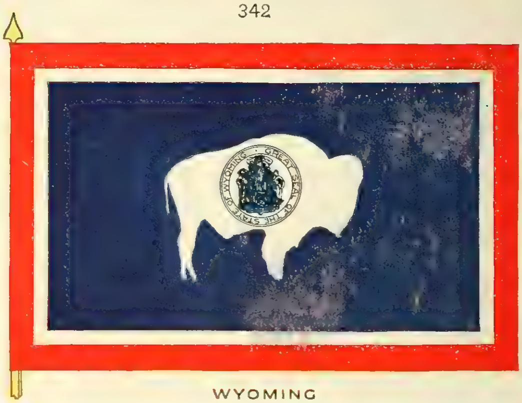
MONTANA
341


THE SEAL OF THE STATE OF WASHINGTON
1889

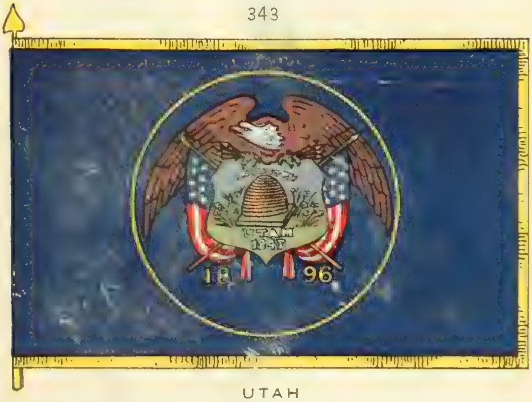
WASHINGTON (UNOFFICIAL)
342



IDAHO
343


GREAT SEAL OF THE STATE OF WYOMING

WYOMING
344



UTAH
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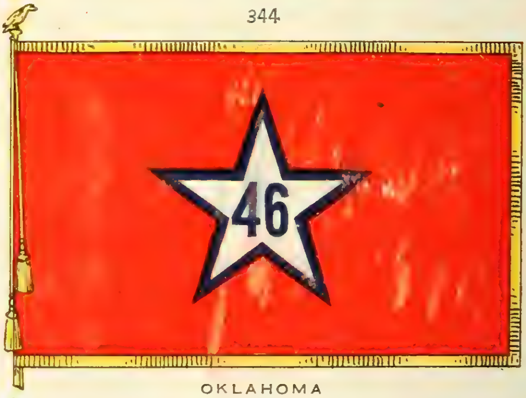
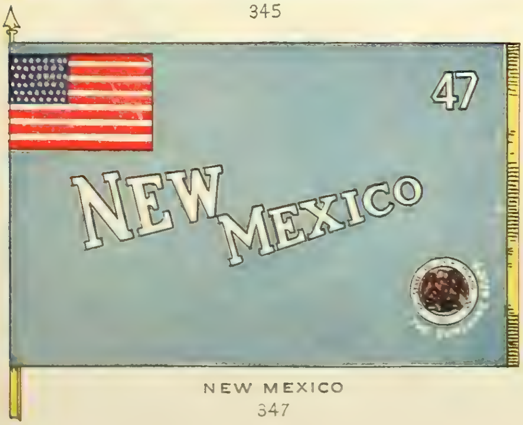
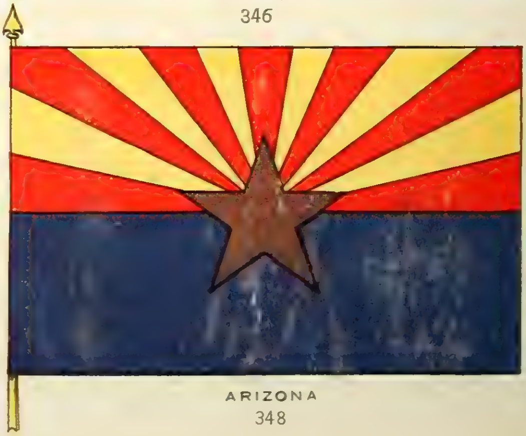


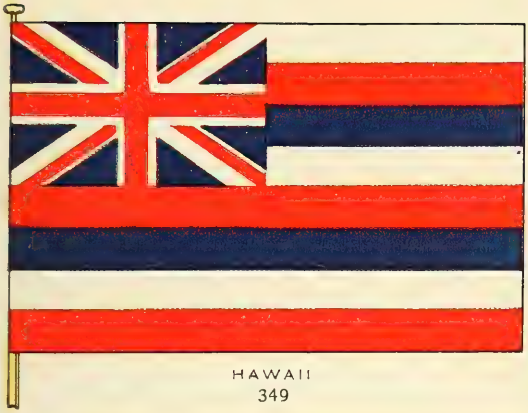
OKLAHOMA
346



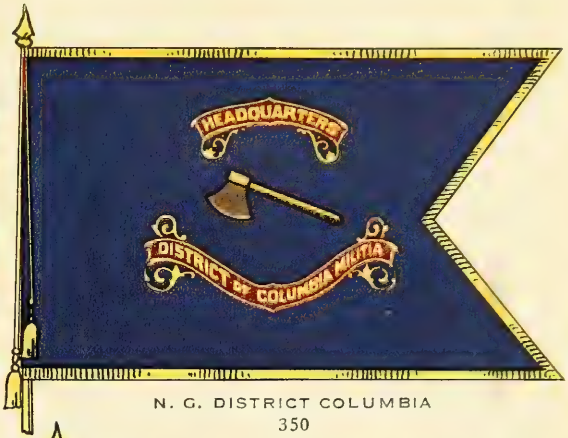
NEW MEXICO
347



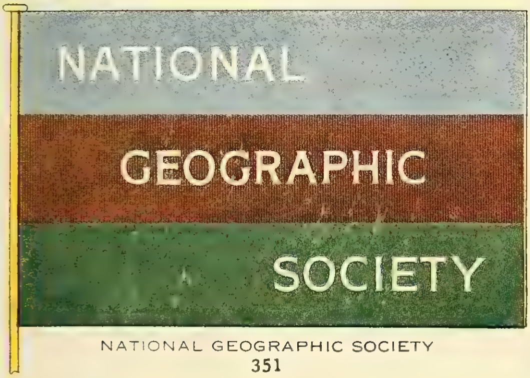
ARIZONA
348



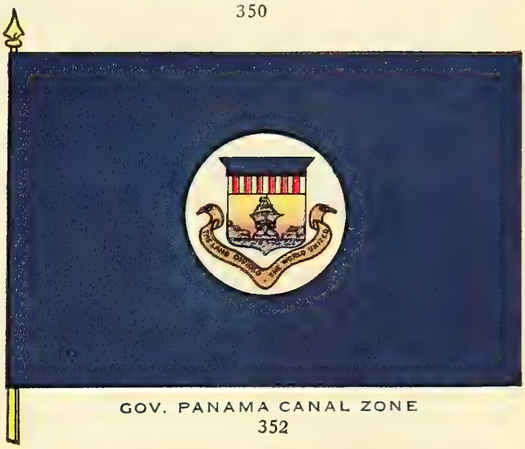
HAWAII
349



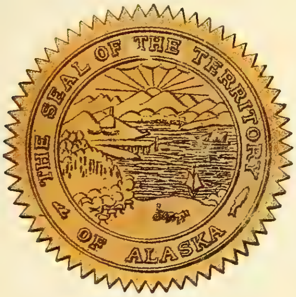
N. G. DISTRICT COLUMBIA
350



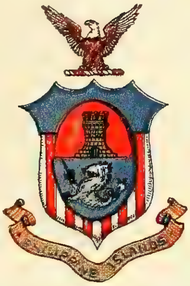
NATIONAL GEOGRAPHIC SOCIETY
351


THE LAND DIVIDED THE WORLD UNITED

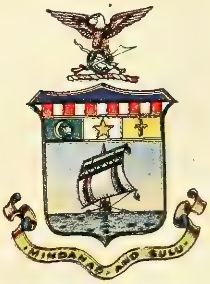
GOV. PANAMA CANAL ZONE
352


THE SEAL OF THE TERRITORY OF ALASKA

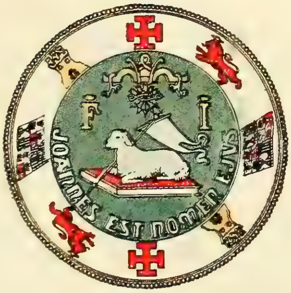
SEAL ALASKA
353



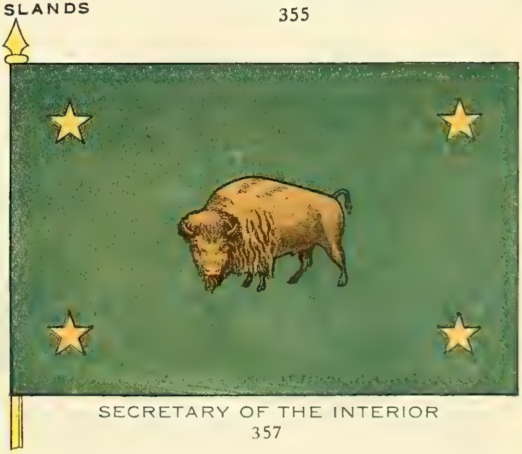
PHILIPPINE ISLANDS
354



MINDANAO & SULU
355



PORTO RICO
356



SECRETARY OF THE INTERIOR
357

330. Wisconsin's State flag was officially adopted in 1913. The law provides that it shall be of dark blue silk, five feet six inches fly and four feet four inches on the pike; the State coat-of-arms is embroidered on each side in silk of appropriate color and design, and the edges of the flag are trimmed with knotted fringe of yellow silk two and one-half inches wide. The pike is nine feet long, including the spearhead and ferrule; the cord eight feet six inches long, with two tassels composed of blue and white silk strands intermixed. Service flags may be of bunting or other material, of such size as may be required, and the coat-of-arms may be represented otherwise than by embroidery.

331. California in 1911 adopted what is popularly known in the State's history as the "Bear Flag," as the official ensign of the "Golden Gate" Commonwealth. The law provides that the Bear Flag shall consist of a white field, with a red stripe at the bottom one-sixth as wide as the field. In the upper left-hand corner of the field is a single red star, and at the bottom of the white field the words "California Republic." Above these words appears a California grizzly bear upon a grass plat, in the position of walking toward the left of the field. The bear is dark brown in color and in length equal to one-third the length of the flag. The Bear Flag dates from the days of the California pioneers and commemorates the biggest bear known to science, the California grizzly, now extinct.

332. Minnesota adopted her State flag at the same time that she provided for a State flower. The ground is of white silk and the reverse side of blue silk, bordered with bullion fringe. In the center is the State seal wreathed with white moccasin flowers and a blue ground. The red ribbon of the seal, bearing the motto, "L'Etoile du Nord" (Star of the North), is continued through the wreath entwining the blossoms and fluttering over the lower portion of the flag. The seal bears in gold 1819 and 1893, the dates, respectively, of settlement and of the adoption of the flag; also, in variegated gold, is the date 1858, the time of the admission of Minnesota into the Union. Below, in gold letters, is wrought "Minnesota." Grouped around the seal are nineteen stars, so arranged that they appear to form the points of a five-pointed star, of which the seal itself is the central portion. Four of the points are made up of four stars each; the fifth point, at the top, is made up of three stars, one of them larger than the others, typifying the North Star and representing the "North Star State." The choice of the number nineteen was made because Minnesota was the nineteenth State after the original thirteen admitted to the Union. The standard of the flag is surmounted by a gold gopher and tied with a gold cord and tassel.

333. Oregon followed the example of a majority of her sister States in devising her flag by making the field blue with a fringe of gold. The size of the flag is five feet six inches fly and four feet four inches on pike. The yellow fringe is four inches deep and the cord and tassel are blue and white silk intermixed. The length of the pike is ten feet, including the spearhead. The arms of the State are embroidered or painted in the center with the number and arm of the service of the regiment underneath where it is used as a regimental flag. The arms consist of an inscription supported by 32 stars, the number of States in the Union at the time Oregon was admitted, and divided by an ordinary with the inscription, "The Union." Above this inscription is an elk with branching antlers, a wagon, Pacific Ocean, a British man-of-war departing, and an American steamer arriving. Below the inscription is a sheaf, a plow, and a pick-axe. The national shield forms the crest. The figures 1859 proclaim the date of the admission of Oregon into the Union.

334. Kansas is another State which, according to the most careful research, has not officially adopted a flag. The military officials, therefore, have provided a blue flag upon which is centered the coat-of-arms of the State. Agriculture is represented by the plowman in the foreground, commerce by the river and steamboat in the background. Above the plowman is a wagon train westward bound, following the course of empire. A herd of buffalo is seen retreating, pursued by two Indians on horseback. Around the top is the motto, "Ad astra per aspera (To the stars through difficulties). Underneath the motto is a cluster of thirty-four stars, representing the States in the Union at the time of the admission of Kansas.

335. West Virginia.—The St. Louis World's Fair was responsible for the adoption of West Virginia's State flag. The West Virginia State Commission at that exposition found it necessary to adopt a flag and special design to distinguish West Virginia from other States of the Union represented. Therefore, it undertook the task of designing a flag itself. The following year the legislature ratified this design, amending it only by the addition of a fringe or border of gold or orange. The law provides that the proportions of the flag shall be the same as those of the United States banner; that the field shall be pure white, upon the center of which, on the obverse side, shall be the great seal or coat-of-arms of the State, with the motto, "Montani Semper Liberi" (Mountaineers always freemen), and beneath that, in a scroll, the legend, "State of West Virginia." On the reverse side of the flag appears a sprig or sprigs of rhododendron maximum, or big laurel, the State flower, having a blossom and leaves. The field of pure white is bordered by a strip of blue, and this in turn by a strip or fringe of old gold. The flag of the State is to be employed on all occasions where a special display of the State's individuality shall become necessary or be regarded as appropriate.

336. Nevada has had several State flag laws, but the one now in force dates from 1915. The flag it authorizes consists of a blue field, in the center of which is placed the great seal of the State of Nevada as designed in 1912. The seal is given a scroll border, and the words "The Great Seal of the State of Nevada" are omitted. Immediately above the seal is the word "Nevada" in silver-colored, block Roman capital letters. Immediately below the seal, and in the form of a scroll, are

the words "All for Our Country." The scroll is red and the lettering gold. Above the center device is a row of eighteen gold-colored stars arranged in an arc, and below it a row of eighteen silver-colored stars, arranged likewise. Each star has five points, one point being placed up. On the seal appear a range of mountains with a sun rising behind them, a railroad train passing a bridge, a cabin and team of horses, a plow, and a sickle.

337. NEBRASKA'S State flag consists of the coat-of-arms or seal on a yellow field. The present seal was adopted in 1867 and is thus described: The eastern part of the circle shows a steamboat ascending the Missouri River; the mechanic arts are represented by a smith with hammer and anvil in the foreground; agriculture is pictured by a settler's cabin and sheaves of wheat; in the background a train of cars is seen heading toward the Rocky Mountains. Around the top of this circle, in capital letters, is the motto, "Equal Before the Law."

338. COLORADO has given considerable attention to its State flag. There was legislation concerning a banner for the Centennial Commonwealth in 1908, but the present flag dates from 1911. It consists of one white and two blue stripes of equal width and at right angles to the staff. The width of the flag is two-thirds of its length. At a distance of 1/36 of the total length from the staff end of the flag there is a circular red "C" of the same color as the red in the national flag of the United States. The diameter of the letter is one-sixth the width of the flag; the inner line of the opening of the letter "C" is three-fourths the width of its body or bar, and the outer line of the opening is double the length of the inner line. Completely filling the letter "C" appears a golden disk. Attached to the flag is a cord of gold and silver intertwined, with tassels, one of gold and one of silver. The law creating the flag provides that it shall be used on all occasions when the State is officially or publicly represented with the privilege of use by all citizens on all such occasions as they may deem fitting and appropriate. All provisions of the State laws regarding the misuse of the national flag are made applicable to the abuse of the State colors.

339. NORTH DAKOTA'S flag was adopted in 1911. Its origin is almost entirely unknown. The Blue Book of the State says that it was the flag of the territorial militia, and that it is first remembered at Huron, South Dakota, when it was unfurled at an annual encampment. That authority also states that it is not known who designed the flag, nor is it discoverable when it was first used. With its yellow-fringed blue fly charged with a coat-of-arms that borrows the eagle from the national seal, North Dakota follows the example of half of the States in the placing of its arms on a blue, gold-fringed flag.

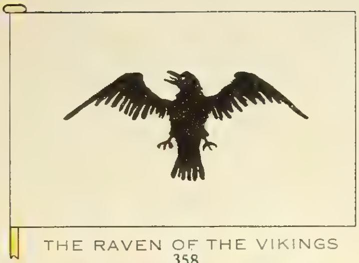
340. SOUTH DAKOTA'S official flag dates from 1909. The law adopting it says that the State flag shall consist of a field of blue one and two-thirds as long as it is wide, in the center of which shall be a blazing sun in gold, in diameter two-fifths the width of the flag. Above this sun shall be arranged in an arc, in gold letters, the words "South Dakota," and below the sun in the arc the words, in gold letters, "The Sunshine State." On the reverse of the blazing sun shall be printed the great seal of the State. The edges of the flag shall be trimmed with a fringe of gold. The staff shall be surmounted by a spear head, to which shall be attached a cord and tassels of suitable length and size. In practice the seal of the State is placed on the obverse side of the flag and the blazing sun on the reverse, which, while following the general principle of flag designing, seems to be the opposite of the intent of the law.

341. MONTANA'S flag was adopted in 1905, the law providing that it shall be of a blue field, with a representation of the great seal of the State in the center and with a gold fringe along the upper and lower borders. This is a copy of the flag borne by the First Montana Infantry, United States Volunteers, in the Spanish-American War, except that the device "First Montana Infantry, U. S. V." is omitted. The seal of the State consists of a brilliant sun setting behind a range of mountains; in the foreground is a plow and miner's pick and spade. Below the pick and spade is a scroll reading, "Oro y Plata," which means "Gold and Silver."

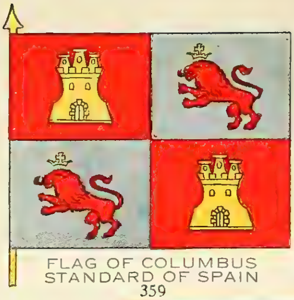
342. WASHINGTON State has never officially adopted a flag, but the military authorities have provided one with a green field upon which is centered the seal of the State. The vignette of General George Washington is the central figure and beneath it are the figures "1889." Around the vignette is a yellow circle bearing the legend, "The Seal of the State of Washington."

343. IDAHO'S laws forbid all military organizations within the State from carrying any other flag or device than the national flag and the flag of the Commonwealth. The latter was authorized by the tenth legislature in 1909, although the details of the design were left by the lawmakers to the Adjutant General, it being prescribed only that the banner should have a blue field charged with the name of the State. The dimensions, as well as the addition of the coat-of-arms above the ribbon with its legend "State of Idaho," have since been determined upon by the proper authority. The coat-of-arms consists of a circular device within a yellow border, the main feature of which is a moose-crested escutcheon showing a blazing sun rising above three mountain peaks and a river in the foreground. The supporters are a miner with pick and shovel and a woman bearing the scales and the torch of liberty. Beneath the shield appear a sheaf of wheat and two horns of plenty. Above the crest is a scroll of white with the legend in red, "Esto Perpetua" (May she be perpetual).

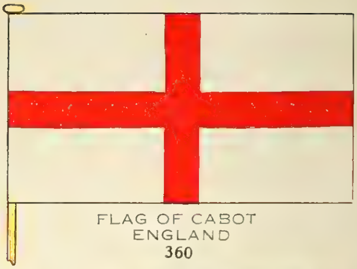
344. WYOMING'S flag is one of the newest of the State flags. It was created under a law passed on the last day of January, 1917. That law provides that the width of the flag shall be seven-tenths of its length; the outside border is red, its width one-twentieth the length of the flag. Next to this red stripe is an inner stripe of white whose width is one-thirtieth the length of the flag. The remainder of the flag is a blue field, in the center of which is a white silhouetted buffalo, the length of



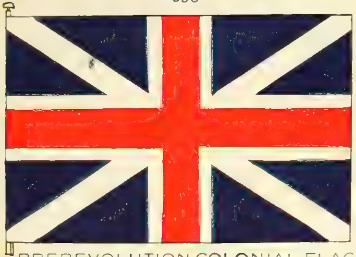
THE RAVEN OF THE VIKINGS
358



FLAG OF COLUMBUS
STANDARD OF SPAIN
359



FLAG OF CABOT
ENGLAND
360



PREREVOLUTION COLONIAL FLAG
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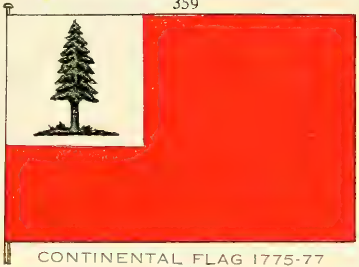
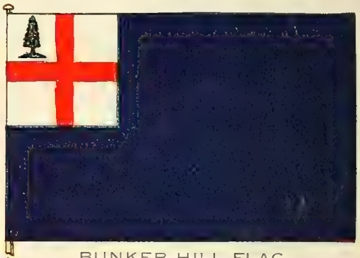
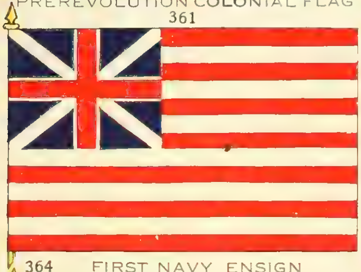


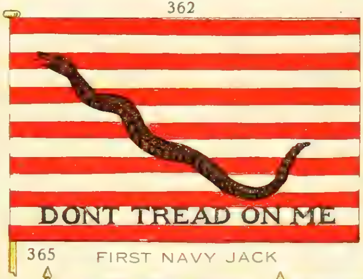
CONTINENTAL FLAG 1775-77
362



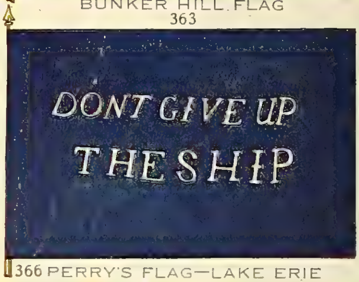
BUNKER HILL FLAG
363



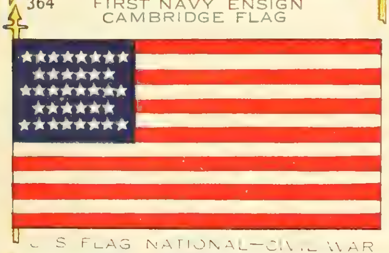
364 FIRST NAVY ENSIGN
CAMBRIDGE FLAG



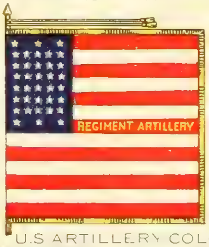
365 FIRST NAVY JACK



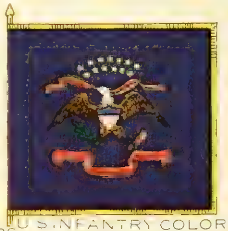
366 PERRY'S FLAG—LAKE ERIE



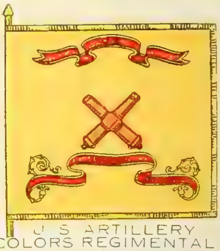
U. S. FLAG NATIONAL—CIVIL WAR
367



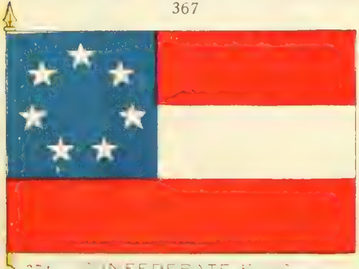
U.S. ARTILLERY COLORS
NATIONAL—CIVIL WAR
368



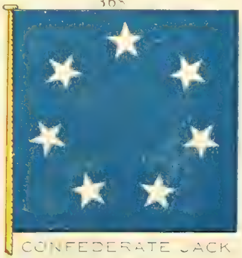
U. S. INFANTRY COLORS
REGIMENTAL
369 CIVIL WAR



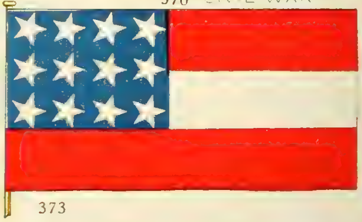
U. S. ARTILLERY
COLORS REGIMENTAL
370 CIVIL WAR



371 CONFEDERATE FLAG
MARCH 4 1861

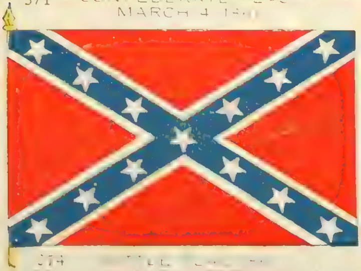


CONFEDERATE JACK
372

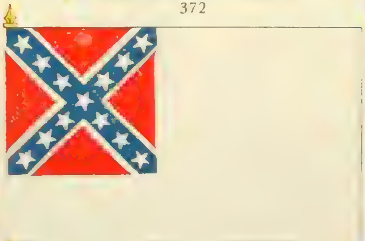


373

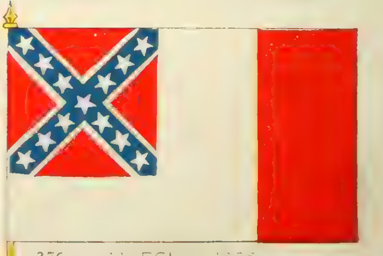
A NAVAL ENSIGN
CONFEDERATE STATES 1862



374 BATTLE FLAG [illegible]
ALSO NAVY JACK AFTER MAY 1 1863

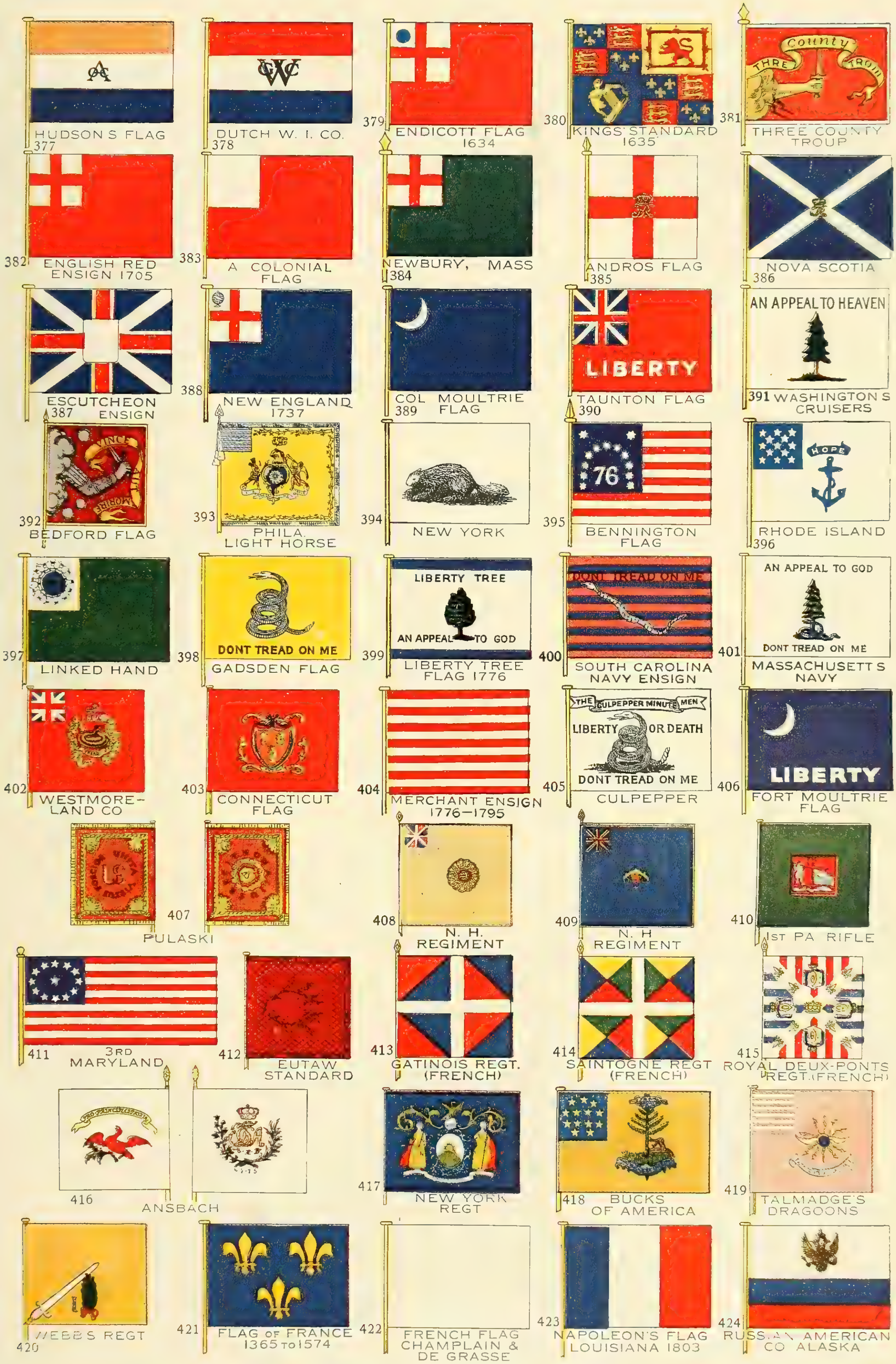


375 MAY 1863



376 MARCH 4 1865

FLAGS FAMOUS IN AMERICAN HISTORY



377 HUDSON'S FLAG
378 DUTCH W. I. CO.
379 ENDICOTT FLAG 1634
380 KINGS' STANDARD 1635
381 THREE COUNTY TROUP
382 ENGLISH RED ENSIGN 1705
383 A COLONIAL FLAG
384 NEWBURY, MASS
385 ANDROS FLAG
386 NOVA SCOTIA
387 ESCUTCHEON ENSIGN
388 NEW ENGLAND 1737
389 COL MOULTRIE FLAG
390 TAUNTON FLAG
391 WASHINGTON'S CRUISERS
392 BEDFORD FLAG
393 PHILA. LIGHT HORSE
394 NEW YORK
395 BENNINGTON FLAG
396 RHODE ISLAND
397 LINKED HAND
398 GADSDEN FLAG
399 LIBERTY TREE FLAG 1776
400 SOUTH CAROLINA NAVY ENSIGN
401 MASSACHUSETT'S NAVY
402 WESTMORE-LAND CO
403 CONNECTICUT FLAG
404 MERCHANT ENSIGN 1776–1795
405 CULPEPPER
406 FORT MOULTRIE FLAG
407 PULASKI
408 N. H. REGIMENT
409 N. H. REGIMENT
410 1ST PA RIFLE
411 3RD MARYLAND
412 EUTAW STANDARD
413 GATINOIS REGT. (FRENCH)
414 SAINTOGNE REGT (FRENCH)
415 ROYAL DEUX-PONTS REGT. (FRENCH)
416 ANSBACH
417 NEW YORK REGT
418 BUCKS OF AMERICA
419 TALMADGE'S DRAGOONS
420 WEBB'S REGT
421 FLAG OF FRANCE 1365 TO 1574
422 FRENCH FLAG CHAMPLAIN & DE GRASSE
423 NAPOLEON'S FLAG LOUISIANA 1803
424 RUSSIAN AMERICAN CO ALASKA

FLAGS FAMOUS IN AMERICAN HISTORY

which is one-half that of the blue field. On the ribs of the buffalo appears the great shield of the State of Wyoming in blue. The diameter of the shield is one-fifth the length of the flag. Attached to the flag is a cord of gold with gold tassels. All penalties provided by the laws of the State for the misuse of a national flag are applicable to the State flag.

345. Utah's flag, consisting of a blue field with a border of gold and a design in the center, was adopted in 1911. The design was revised in 1913. It consists now of a device in natural colors, the fundamental portion of which is a shield surmounted by an eagle with outstretched wings. The shield bears a beehive, on each side of which grow sego lilies and above which is the word "Industry." At the bottom of the shield is a green field bearing the date 1847, with the word "Utah" above it. Two American flags on flagstaffs, placed crosswise, are so draped that they project beyond each side of the shield, the head of the flagstaffs in front of the eagle's wings, and the bottom of each staff appearing over the face of the draped flag below the shield. Below the shield and flags and upon the blue field is the date "1896," the year in which the State was admitted to the Union. Around the entire design is a narrow circle of gold.

346. Oklahoma.—The law under which Oklahoma adopted an official State flag was enacted in 1911. The flag authorized under it consists of a red field, in the center of which is a five-pointed star of white edged with blue, with the figures "46" in blue in the middle of the star. This number proclaims the fact that Oklahoma was the forty-sixth State to become a part of the Union. The Oklahoma flag departs from the usual in its pike head. Instead of the regulation spearhead, an eagle at rest, facing the direction of the fly, stands guard over the colors.

347. New Mexico. — Embodying elements unique in flag design, the official flag of the State of New Mexico was adopted shortly after the Commonwealth became a member of the Union. The banner has a turquoise blue field, emblematic of the blue skies of New Mexico; it has a canton consisting of the flag of the United States in miniature in the upper left-hand corner, designating the loyalty of the people of the State to the Union; in the upper right-hand corner of the field a figure 47, the forty-seventh star and State in the American Union; in the lower right-hand corner is the great seal of the State, and upon the field running from the lower left to the upper right-hand corner are the words "New Mexico" in white. When the flag law was passed it was ordered that the embroidered banner attached to the bill should be deposited with the Secretary of State to be faithfully kept by him in the archives of the Commonwealth.

348. Arizona.—A bill making the flag of the battleship *Arizona* the banner of the Commonwealth for which it is named failed to pass the State Senate in 1915, but a similar bill was adopted early in 1917. As finally described, the upper part of the flag consists of thirteen segments or rays, alternate red and yellow; the lower part is a solid field of blue, while upon the center is imposed a copper star. It was objected at the time of the adoption of this design that it contained nothing characteristic of Arizona; that it infringed upon the ensign of Japan, and that the effect of a star against a rising sun was a severe straining of astronomy. A substitute bill was prepared and offered to the upper house of the legislature, but the original form became a law, thus establishing one of the most striking of the State banners.

349. The flag of Hawaii preserves the crosses of St. Andrew, St. George, and St. Patrick, and carries eight stripes. Some of the Southern States retain the cross of St. Andrew, but Hawaii is the only American soil over which float the three crosses which were the cantonal feature of the first flag of the United Colonies of America (364).

350. The flag of the National Guard of the District of Columbia has a rectangular field, the fly end of which is swallow-tailed. Centered thereon is a small hatchet, whose alleged manipulation in connection with an apocryphal cherry tree is reputed to have put the Father of His Country to a very trying test in the matter of veracity. The designations of the forces appear on scrolls above and below the hatchet.

351. The banner of the National Geographic Society is a flag of adventure and conquest; a flag of adventure because it is ever carried beyond the horizon of known scientific fact, in the hope that there may be found some new truth that will make mankind freer in the solution of the problems that ever confront the race; it is the flag of conquest because it has gone to the tops of high mountains, to the inmost recesses of regions unexplored by civilized man, to the craters of volcanoes whose fiery depths have never been surveyed by the human eye. Those who have had its support have conquered polar ice and polar seas, have mastered many of the secrets of glacial action, have lent a hand to the solution of the great problem of vulcanism, have unearthed the holy city of the Incas, have rescued venerable trees of California from the only enemy they ever feared—the man with the ax and the saw. Its colors, typifying earth, sea, and sky, proclaim the illimitable reaches of the fields of interest over which it flies, and the vastness of the work of exploration and diffusion of knowledge, in which it has played no small part, and to which its future efforts shall ever be dedicated.

352. The Governor of the Panama Canal Zone flies a rectangular flag upon which is centered the seal of the Canal Zone. This consists of an escutcheon which shows a ship under full sail passing through Gaillard Cut, at the point where it divides Gold Hill and Contractor's Hill. Below the escutcheon is a streamer bearing the now familiar words, "The land divided, the world united." The escutcheon and streamer are grounded upon a circle of white.

353. The seal of the Territory of Alaska is a circular field bearing in the background a sun rising over snow-capped, embattled mountains. In the right foreground are the waters that wash the shore of the territory, bearing two sailing vessels. To the left is a pier,

rudely constructed, and an outpost of civilization. In the foreground is a team of horses. Around the whole is inscribed, "The Seal of the Territory of Alaska."

354. The coat-of-arms of the Philippine Islands was adopted in 1905. Its principal feature is an escutcheon showing the national colors of the United States. Imposed upon this escutcheon are the arms of Manila on a shield, the upper half red and the lower blue. Upon the upper half of this shield, in gold, is the castle of Spain, with blue windows, and on the lower half a sea-lion bearing in its right paw a hilted sword. The crest is the American spread eagle, and beneath is a scroll with the words "Philippine Islands."

355. The coat-of-arms of Mindanao and Sulu was adopted in 1905, along with those of the Philippine Islands and Porto Rico. It consists of the escutcheon of the United States, upon which is imposed a Moro war vinta sailing an Indian sea. Above the escutcheon is the American spread eagle mounted on a wreath, supported by the crossed weapons of war of the Indian seas, and below the device is a scroll bearing the words "Mindanao and Sulu."

356. The present coat-of-arms of the Island of Porto Rico, adopted in 1905, is a restoration of the original arms of the Spanish colony of "the rich port." Therefore it is in all its parts reminiscent of Spanish times. On a green circular field is a lamb of silver on the red-bound book and bearing the cross-crowned banner of Christ. This is the device ascribed to St. John. Above the lamb are the gold-crowned letters F and I—Ferdinand and Isabella. Surrounding the green field is a white border edged with gold. Upon this border are the castles of Castile, the crowned red lions that proclaim León, the crosses of Jerusalem, and the standards of Spain in the days when the star of her fame was at its zenith.

357. The flag of the Secretary of the Interior, with its light green field bearing in the center a golden buffalo and a five-pointed star in each quarter, stands for many of the nation's activities and much of the world's progress. The Department whose chief it proclaims fosters the priceless fruits of American inventive genius, aids and safeguards those who have made America the foremost mineral-producing country of the earth, supervises the pension system through which is discharged the national duty toward those who have fought the battles of the Republic, sponsors the cause of justice to the Red Man, who has given a continent to civilization. This Department directs the national aspects of American education, and thus leads Western civilization to a new era; it is saving to posterity the inestimable boon of majestic forests and untouched stretches of primeval nature; it is reclaiming millions of acres of unproductive land and tapping the bare rocks of waste places with the wand of irrigation. Also it has distributed an empire to the pioneers of the West and transformed a million square miles of idle territory into a wealth- and strength-producing region of infinite national value.

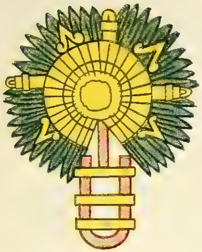
FLAGS FAMOUS IN AMERICAN HISTORY

358. The Raven of the Vikings.—Five hundred years before the arrival of Columbus in the New World, Eric the Red is supposed to have guided his ships, square-sailed, decorated with curiously carved figureheads, and manned by hardy Norsemen, to the shores of Vinland (Labrador, or Nova Scotia, or the New England coast), and there planted for a brief period this banner with the strange device of "a raven, with wings extended and open bill, upon a white ground."

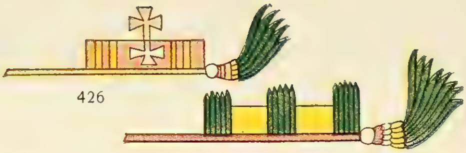
359. Flag of Columbus, Standard of Spain.—A quartered flag of red, gold and silver—the standard of Castile and Leon—is generally accepted as having been the first European banner flown on American soil. This truly regal standard was planted on the beach before the startled gaze of the awe-struck aborigines when Christopher Columbus, richly clad, set foot on shore on October 12, 1492, and, in the name of their Catholic majesties, Isabella and Ferdinand, formally took possession of the island which he called San Salvador, but which is believed to have been what is now known as Watling Island in the Bahamas.

360. Flag of Cabot, England.—Giovanni Caboto (John Cabot), the discoverer of North America, had many points in common with his contemporary, Columbus. They were both Genoese, both believed the earth to be round, and that the east could be reached by sailing west, and both finally set out on their voyages of discovery under the flag of a foreign monarch. Cabot's flag was the royal standard of England, the red cross of St. George on a white ground, and his patron was King Henry VII, whose enthusiasm for the enterprise was quickened by the news that Columbus had found the East in the West. It was on June 24, 1497, that this flag of England was planted in the New World (probably on the northern extremity of Cape Breton Island, Nova Scotia), and the explorer took possession of the country in the name of England's king.

361. This was the union flag which probably was displayed from the main mast of the *Mayflower* that bore the Pilgrim Fathers to Plymouth in 1620, and on the ships which brought the English settlers to Jamestown in 1607. These vessels also displayed St. George's cross (360) at the fore mast and the red ensign (382). The union flag had come into existence in 1603, when James VI of Scotland ascended the throne of England as James I, thus uniting the two countries under one sovereign after centuries of warfare. He ordered all ships to display this flag at the main mast. They continued to use their own ensigns and jacks, however—English ships 1123 and 1127, Scottish ships 1131 and 831 (note 1132 for Scotch de-

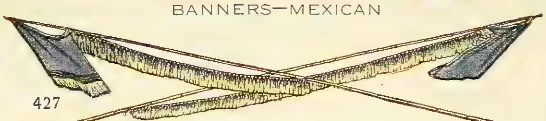


AZTEC STANDARD
BATTLE OF OTUMBA
425



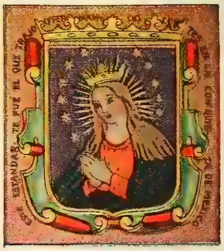
426

BANNERS—MEXICAN

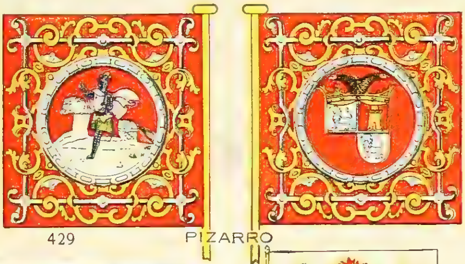


427

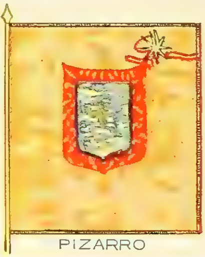
BANNERS—INCAS
BEFORE PIZARRO



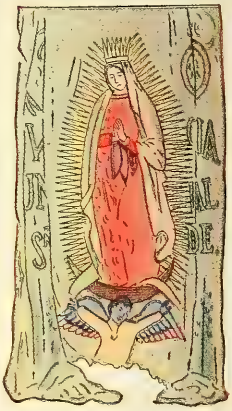
CORTES STANDARD
428



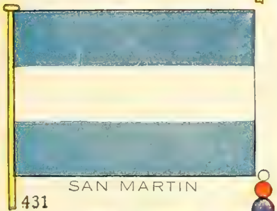
429 PIZARRO



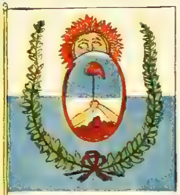
430 PIZARRO



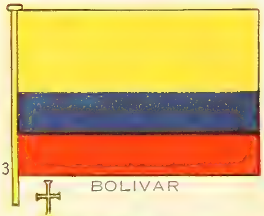
BANNER OF HIDALGO
434



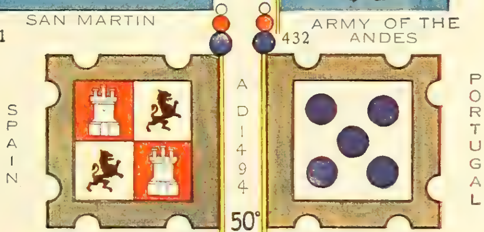
431 SAN MARTIN



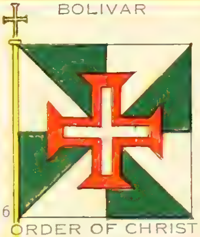
432 ARMY OF THE
ANDES



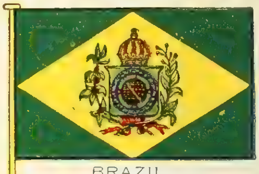
433 BOLIVAR



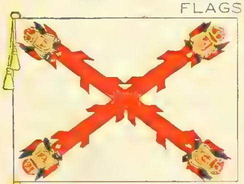
435 TREATY OF TORDESILLAS
FLAGS FROM MAPS



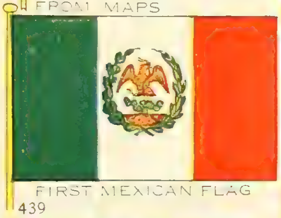
436 ORDER OF CHRIST



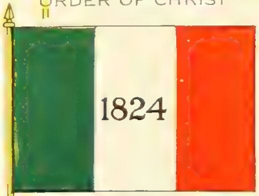
437 BRAZIL
EMPIRE



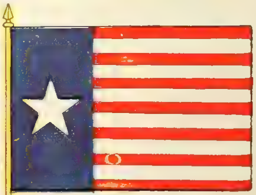
SPANISH FLAG
IN MEXICO
438



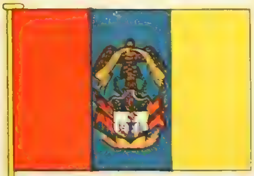
FIRST MEXICAN FLAG
439



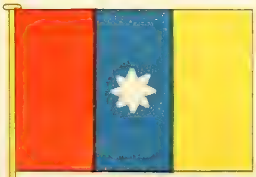
ALAMO FLAG
440



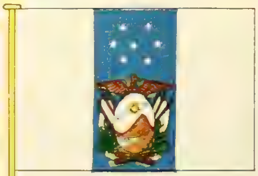
441 TEXAS FLAG
(NAVAL)



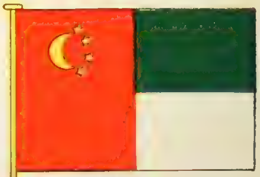
NEW GRANADA
442 (COLOMBIA)



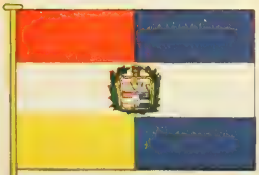
NEW GRANADA
443



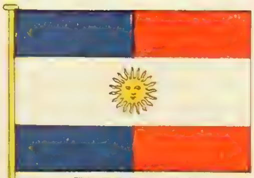
ECUADOR
444



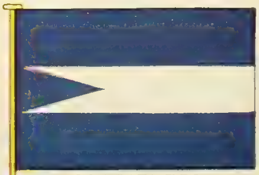
SOUTH PERU
445



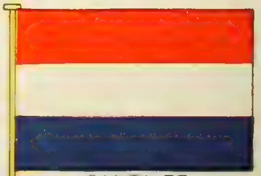
GUATEMALA
446



ENTRE RIOS
447

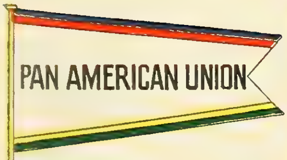


CORRIENTES
448

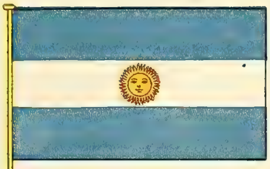


SANTA FE
449

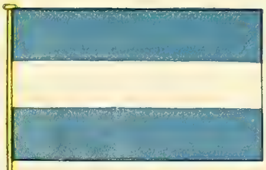
FLAGS FAMOUS IN AMERICAN HISTORY



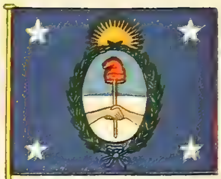
PAN AMERICAN UNION
450



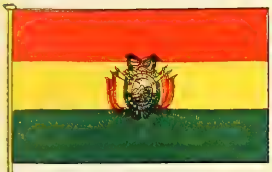
ARGENTINA ENSIGN
451



ARGENTINA MERCHANT
452



453 ARGENTINA
PRESIDENT



BOLIVIA ENSIGN
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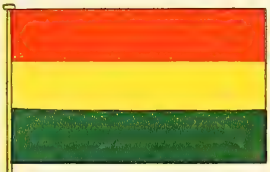

BOLIVIA MERCHANT
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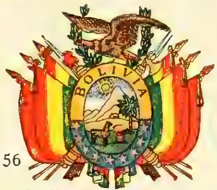

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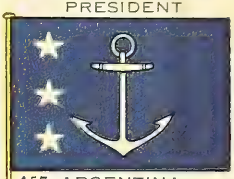
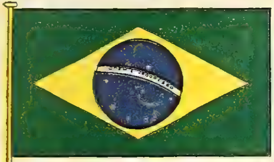
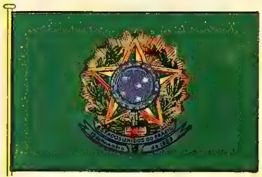
BOLIVIA COAT ARMS



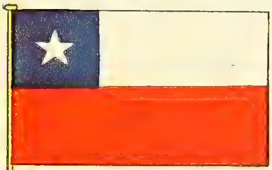
457 ARGENTINA
ADMIRAL SHORE



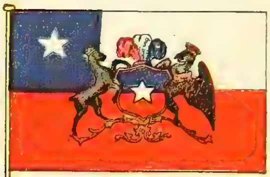
458 BRAZIL ENSIGN



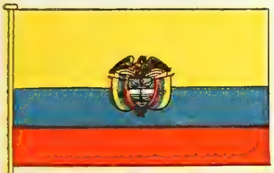
459 BRAZIL PRESIDENT



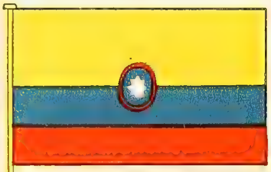
460 CHILE NATIONAL
& MERCHANT



461 CHILE PRESIDENT



COLOMBIA ENSIGN
462



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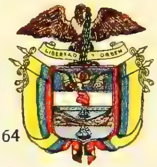

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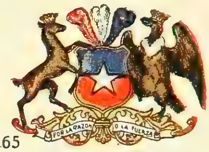
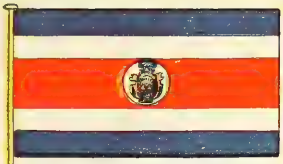

POR LA RAZON O LA FUERZA

465
CHILE COAT ARMS



COSTA RICA ENSIGN
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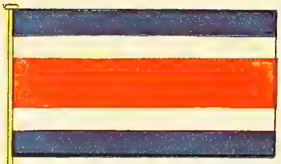

COSTA RICA MERCHANT
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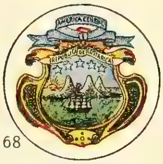

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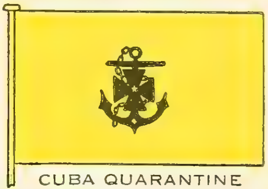
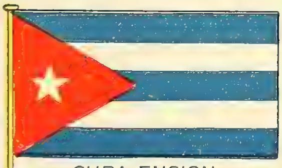
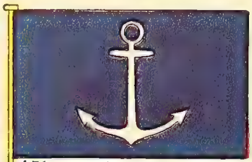
COSTA RICA COAT ARMS



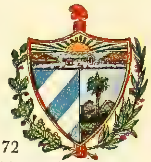
CUBA QUARANTINE
469



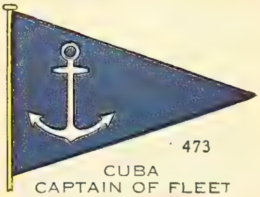
CUBA ENSIGN
470



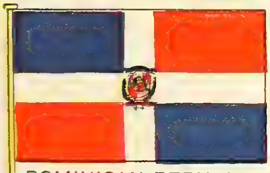
471 CUBA
SECRETARY OF NAVY



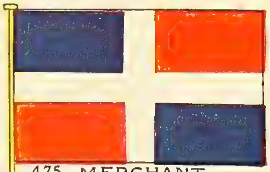
472
CUBA COAT ARMS



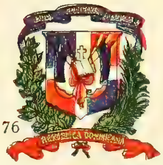
473
CUBA
CAPTAIN OF FLEET



DOMINICAN REPUBLIC
474 ENSIGN



475 MERCHANT
DOMINICAN REPUBLIC



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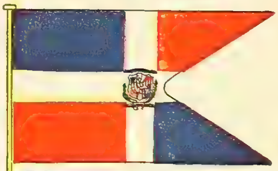
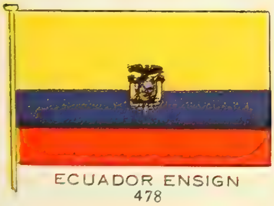
COAT ARMS



DOMINICAN REPUBLIC
ADMIRAL
477



ECUADOR ENSIGN
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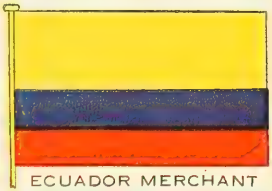
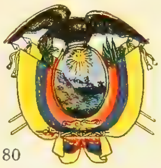
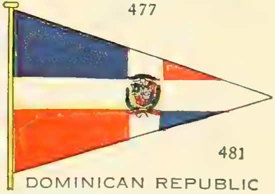


ECUADOR MERCHANT
479



480
ECUADOR COAT ARMS



481
DOMINICAN REPUBLIC
COMDG OFFICER'S PENNANT

sign of union flag). After the union of parliaments in 1707 this was the only flag officially used on land over forts and public buildings in the English colonies. With the addition of designating numerals above a small crown at the intersection of the crosses, it became the "King's Colors" for regimental troops.

362-363. CONTINENTAL AND BUNKER HILL.—The illustrations show two replicas in Annapolis of flags said to have been carried at Bunker Hill. The Trumbull painting of the battle of Bunker Hill shows 362, while others show 363. 362 was probably formed from the English ensign, shown in 1123 (in use prior to 1705), by omitting St. George's cross and substituting the pine tree, which was the symbol of the Massachusetts Bay Colony (see also 391, 399, and 401). 363 was made by inserting a pine tree in the upper left quarter of the old blue English ensign's canton (1125).

364. This was the flag hoisted by John Paul Jones on December 3, 1775, as the navy ensign of the thirteen colonies, when Commodore Esek Hopkins assumed command of the navy built by Congress. It was also hoisted by General Washington January 2, 1776, as the standard of the Continental Army and remained as our national flag until the adoption of the Stars and Stripes, June 14, 1777 (see history of "Stars and Stripes" elsewhere in this number).

365. OUR FIRST NAVY JACK.—Hoisted December 3, 1775, the same day that John Paul Jones hoisted 364 as the ensign of our new navy and that 398 was raised at the main mast as the flag of the Commander-in-Chief, Esek Hopkins (see 398 and 400).

366. PERRY'S FLAG, LAKE ERIE.—At the battle of Lake Erie, September 10, 1813, Oliver Hazard Perry, who was in command of a fleet which he had been forced to construct in feverish haste from virgin timber, unfurled from his masthead this challenge to sturdy Americanism — the dying words of brave Captain Lawrence. Under its inspiration the men fought gallantly through one of the most notable naval engagements of the war, enabling Perry at its close to send the famous message to General Harrison, "We have met the enemy and they are ours—two ships, two brigs, one schooner, and one sloop."

367. Although so distinguished a citizen as S. F. B. Morse proposed at the outbreak of the Civil War that the national flag, the Stars and Stripes, should be cut in twain, the North retaining the upper six and one-half stripes and those stars above a diagonal line extending from the head of the staff to the lower corner of the canton, while the South should be given the lower six and a half stripes and the stars below the diagonal line on the canton, the remainder of each flag being white, neither the North nor the South saw fit to follow such a suggestion. The Stars and Stripes carried by the armies of the North during the last years of the Civil War had thirty-six stars in the union, as shown in 367. When Lincoln became President, however, there were only thirty-four States, which were impersonated at the inaugural ceremonies by thirty-four little girls, who rode in a gaily decorated car in the procession and sang to the new President, "Hail, Columbia."

368. The artillery during the Civil War carried a standard with thirty-six stars arranged three stars at the top, three at the bottom, and a lay-out of thirty in six horizontal lines of five stars each. It will be noticed that this flag, like 367, was adopted after West Virginia and Nevada had entered the Union.

369. The design on the colors of infantry regiments during the Civil War was almost a counterpart of that borne on the standard of the War of 1812 (see 22). It shows an eagle displayed and bearing upon its breast a shield, with a scroll in its beak and another below it, upon which appeared the designation of each regiment. Above the eagle are thirteen golden stars arranged in two arcs.

370. The regimental colors of the United States artillery during the Civil War were yellow. Upon the field were centered two crossed cannons with a scroll above and below bearing the designation of the regiment.

371. This flag is the familiar "Stars and Bars" of the Southern Confederacy and was used from March, 1861, to May, 1863.

372. This jack of the Confederate States was made to correspond with the provisional flag of the Confederacy, known as the Stars and Bars. It probably was flown by ships of the seceding States until 1863, when the navy jack (374) was prescribed by the Secretary of the Confederate Navy.

373. This ensign was probably displayed by the ships of the Confederacy from 1861 to 1863.

374. The navy jack of the Southern Confederacy, used after May 1, 1863, had an oblong red field, with a blue St. Andrew's cross bordered by white and having three stars on each arm and one at the intersection. It was merely the square canton of the second flag of the Confederacy elongated, so that its length was one and a half times its width. The battle flag of the Confederacy during the same period was like this navy jack, except that it was square, and all four of its sides were bordered by a white stripe one and a half inches wide. The battle flag carried by the infantry was forty-eight inches square, that by the artillery thirty-six inches, and that by the cavalry thirty inches square.

375. The national flag of the Confederacy between May 1, 1863, and March 4, 1865, had a white field twice as long as wide, with the battle flag as its union.

376. The Confederacy's national flag, adopted March 8, 1865, was the same as that adopted May 1, 1863 (375), except that one-half of the field between the union and the end of the fly was occupied by a horizontal bar of red.

377. HUDSON'S FLAG.—When Henry Hudson glided into the unsailed waters of New York harbor in his little *Half Moon,* this flag was his ensign; thus it is supposed to have been one of the first European flags reflected in the waters of what is now the busiest port on earth. It was the flag of the Netherlands, with the letters A. O. C. added to the central stripe. These were the initials of the Dutch East India Company, "Algemeene Oost-Indise Compagnie," under whose auspices Hudson sailed. Later it floated over the little huts built by the East India Company on Manhattan Island for the

fur traders. But in 1650 the orange stripe on the Netherlands flag became the red stripe of today's banner (775), and with the withdrawal of the East India Company's interests from New Netherlands this flag disappeared from our waters and shores.

378. Dutch West India Company.—In 1621 the Dutch West India Company was formed and, with other valuable concessions, was given control of the fur trade of the New World by the States General of Holland. Thus this flag became dominant in the waters around New York in 1622, and continued so for forty-two years. The letters G. W. C. are the initials of the company, "Geoctroyeerde West-Indische Compagnie." In 1650 the orange stripe was changed to red in accordance with a similar change in the national flag of Holland. It was not until the conquest of New Netherlands by the English in 1664 that this flag disappeared from our northern shores.

379. Endicott's Flag.—The red cross of St. George on the English flags was a source of question to the stern religionists of the Massachusetts Colony. John Endicott, with Spartan directness, attempted to settle the matter by cutting out a part of the red cross on the Salem ensign in 1634. This led to long-drawn litigation. Fear of offending the mother country struggled with the seeming idolatry of a cross on a flag. Finally it was decided to "render unto Cæsar" his own, and inasmuch as the fort of Castle Island, at Boston, was maintained in the King's name, his colors were allowed to fly there. It was not until 1651, however, that the general court of Massachusetts gave official sanction to the use of the flag with its cross. This illustration of the Endicott flag, with its distinguishing blue ball in the first quarter of the canton, shows it before the mutilation.

380. King's Standard in 1635.—The designs on this royal flag, which was in use during the early settlement of our country, are especially suggestive and carry us back to the very roots of English history. Each little symbol found its place on the flag through some noteworthy event in the ever-changing fortunes of early England. The harp on the third quarter is the ancient symbol of Ireland (see 839), which Elizabeth, in token of her success in dealing with the island, added to the royal ensign. On the second quarter appears the lion of Scotland (see 838), in token of that country's union with England. The first and fourth quarters of the shield alike bear the three lions and the three fleurs-de-lis. Two of the lions were introduced by William II from the arms of his native Normandy. Authorities differ as to the origin of the third lion, some maintaining that it was added by Henry II in honor of his wife, Eleanor of Aquitaine, who brought him as a dowry three provinces in France. Edward III, on assuming the title "King of France," in 1340, quartered with the lions the fleurs-de-lis on a blue field. It remained for James I, in 1603, to combine these various symbols into the form seen here.

381. Three County Troop.—It was in 1659 that three counties of Massachusetts—Suffolk, Middlesex, and Essex—raised a company of cavalry called the Three County Troop, which continued its organization for twenty years or more. Their standard is not known to be in existence at present; but a most interesting drawing of it and the original bill of cost for it are preserved in the British Museum. The legend in the drawing reads: "Thre County Trom," apparently a mistake in copying the word troop from the original banner. It probably waved above the brave Colonials in King Philip's War of 1675 and 1676.

382. Under the red ensign many of England's greatest admirals won the victories which made the island kingdom mistress of the seas. This is the famous "meteor flag of Old England," and until the union of the kingdoms of England and Scotland under one parliament, in 1707, it was the ensign of the English colonies in America. It was especially dear to the New England colonists, who cherished its brave traditions as their own.

383. A Colonial Flag. 384. Newbury Mass. 388. New England, 1737. 390. Taunton Flag.—To one interested in watching the growth and development of customs or in tracing the symbolic expressions of the ideas of a people, there is no more fascinating study than the growth of our own flag. Naturally, the Colonists used at first the flags of the homeland (such as 361). But slowly the environment of this new, spacious country, working in connection with the deep religious consciousness of the people, wrought itself into visible form in the flags.

At Taunton, Mass., was raised, in 1774, flag number 390, the red union English flag common at the time, with the addition of the watchword of America—the magic watchword that now, after nearly a century and a half, bids fair to become the watchword of the world.

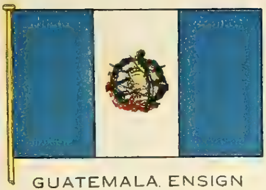
In 383 a stronger feeling of separation is indicated in the plain red flag with the pure white canton. In 384, the flag of Newbury, Mass., the cross is retained, but the color of the field has changed to the green of the New England forests.

Then, in place of the British cross, we see coming into prominence the sturdy native American emblems. A pine tree on a white ground was a symbol of many qualities conspicuous in the lives of our New England ancestors. Simple, austere, and bearing withal a stately dignity, it fittingly expressed the ideas of the times. Moreover, it proclaimed the patriots' love for this newest homeland with its pine-clad hills. And so it was that the pine tree waved over many a hard-fought field in those trying years. Joined with St. George's cross, it appeared on the blue banner of Bunker Hill (363).

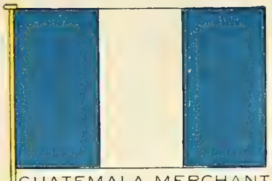
Frequently the pine tree gave place to a globe, as in the New England flag of 1737 (388). Again, the pine tree alone occupies the white canton of a red flag, best illustrated by 362, the Continental flag of 1775-1777. These historic flags picture to us in striking form the feelings and the hopes as well as the spirit of '76.

384. (See 383.)

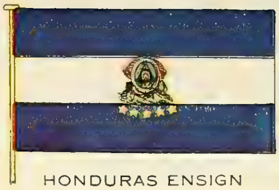
385. Andros' Flag.—In 1684 the charter of Massachusetts was annulled and the home



GUATEMALA ENSIGN
482



GUATEMALA MERCHANT
483



HONDURAS ENSIGN
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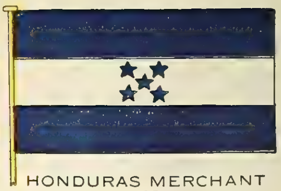

HONDURAS MERCHANT
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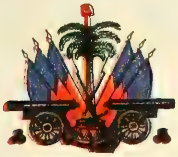
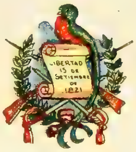


HAITI COAT ARMS
486



GUATEMALA COAT ARMS
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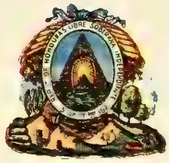

HONDURAS COAT ARMS
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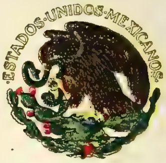
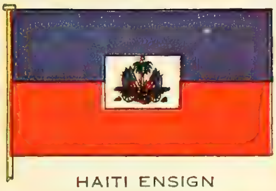
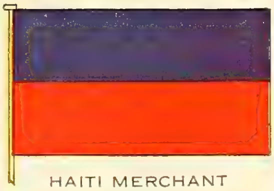


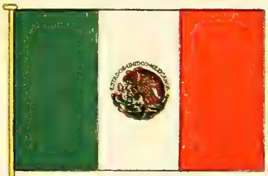
MEXICO COAT ARMS
489



HAITI ENSIGN
490



HAITI MERCHANT
491



MEXICO ENSIGN
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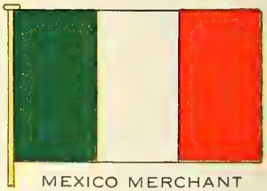
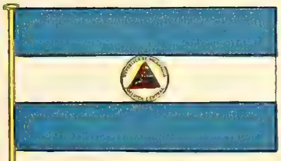
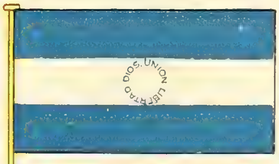


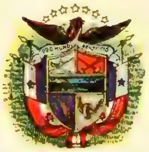
MEXICO MERCHANT
493



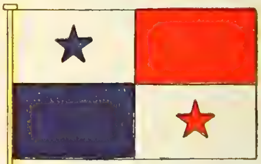
NICARAGUA ENSIGN
494



NICARAGUA MERCHANT
495



PANAMA COAT ARMS
496



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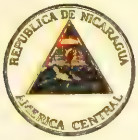

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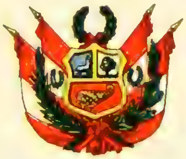

PERU COAT ARMS
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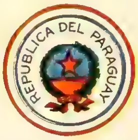

PARAGUAY COAT ARMS
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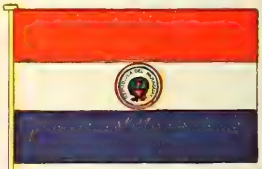

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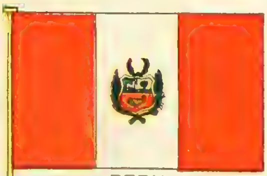
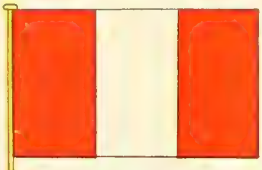


PERU
ENSIGN & PRESIDENT
502



PERU MERCHANT
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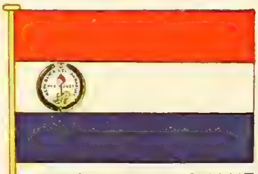

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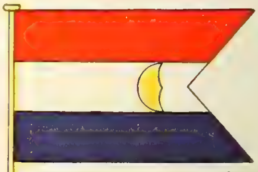

PARAGUAY ADMIRAL
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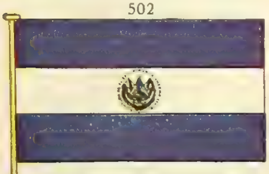
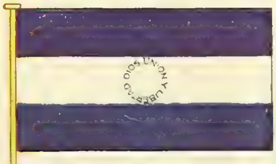
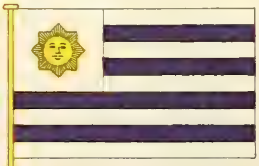


SALVADOR ENSIGN
506



SALVADOR MERCHANT
507



URUGUAY
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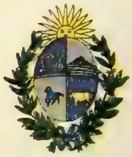
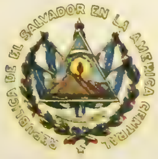


URUGUAY COAT ARMS
509


REPUBLICA DE EL SALVADOR EN LA AMERICA CENTRAL

SALVADOR COAT ARMS
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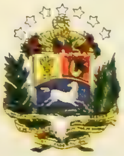
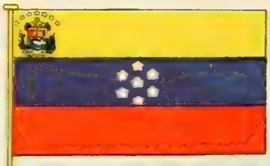


VENEZUELA COAT ARMS
511



VENEZUELA ENSIGN
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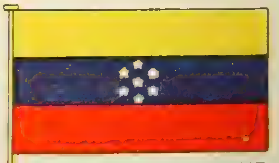

VENEZUELA MERCHANT
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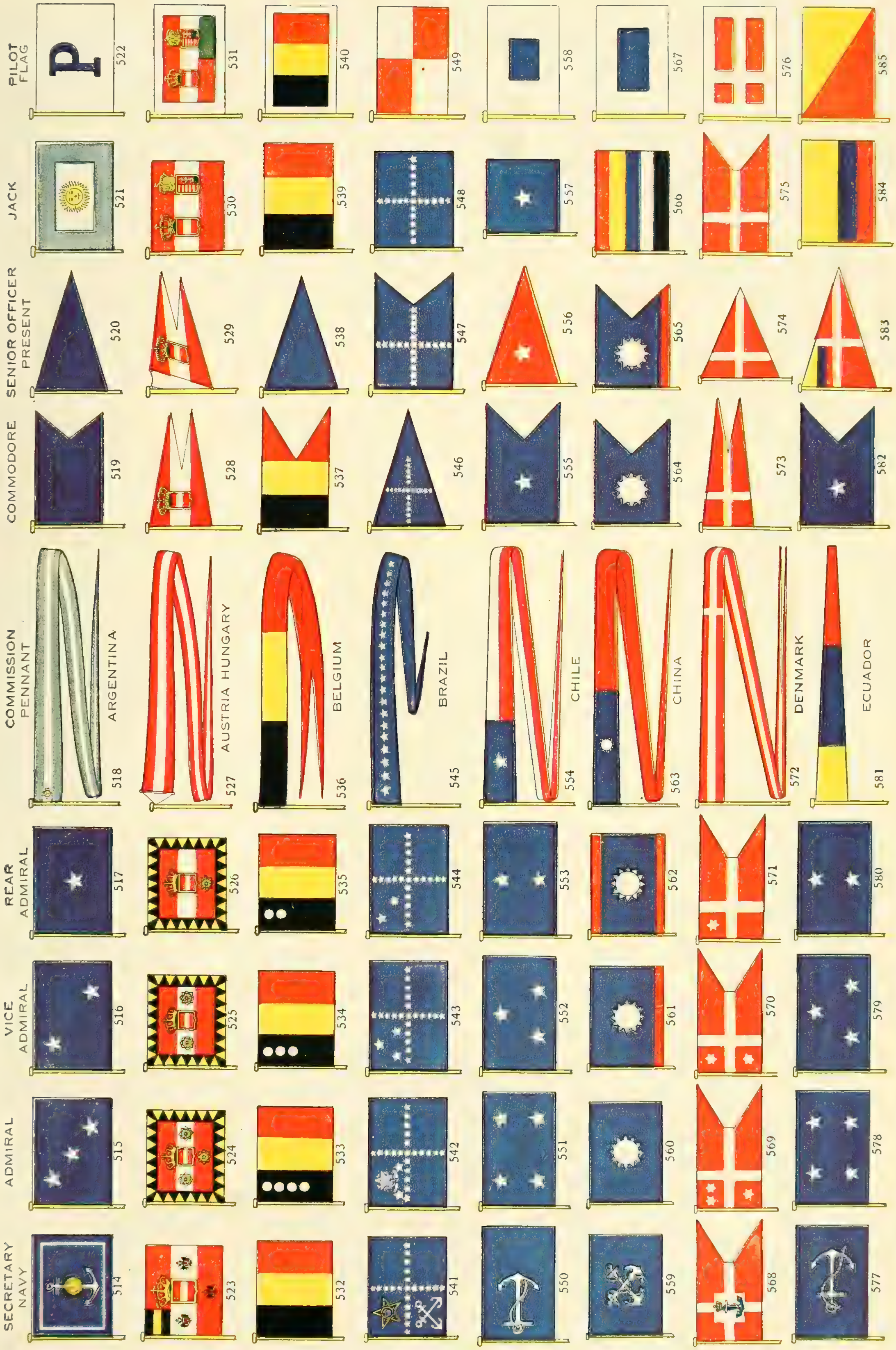
SECRETARY NAVY
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VICE ADMIRAL
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government organized all of New England as a royal domain. In 1686 Edmund Andros arrived as Governor of the province. The flag under his rule was the red cross of St. George on a white field with a gold crown in the center. Under the crown appeared the letters J. R., the cipher of King James. But in 1689, with the arrival in England of William of Orange, the colonists deposed Andros, and this flag was consigned to the oblivion of banners no longer expressive of the feelings of a developing people.

386. Nova Scotia.—Nova Scotia was the New Scotland, just as the Massachusetts group of colonies was the New England, for even in the days of King James there was no Great Britain, but the two separate countries. And that is why the vertical cross of St. George appeared on the Andros and other New England flags, while the diagonal Scottish cross of St. Andrew marked those of Nova Scotia. The center of the flag is marked by the crown and cipher of James Sixth of Scotland and First of England. He it was who united the two crosses into the union flag of 1606, the very year in which he gave the first royal grants of land in North America, under which permanent settlements grew up. It was not until 1801, long after the Stars and Stripes were known on every sea, that the red diagonal cross of St. Patrick, in recognition of Ireland, was added to the combined crosses, thus making the familiar British union jack of today.

387. Escutcheon Ensign.—Early in the life of the New England Colonies it was seen that the merchant ships of the mother country needed a special flag to distinguish them from the King's ships. In 1701 we find this order from the Admiralty Office at Whitehall, London: "Merchant ships to wear no other jack than that worn by His Majesty's ships, with the distinction of a white escutcheon in the middle thereof." The "Governors of His Majesty's plantations" were ordered to oblige the commanders of their merchant ships to use this and no other. The merchant ships, however, continued to fly the various flags endeared to their commanders by old associations. Many of them seem to have preferred the usual red or blue New England flag which had a red St. George's cross and a globe (388) or tree (363) on a white ground in the upper left-hand corner.

388. (See 383.)

389. Colonel Moultrie's Flag.—In September, 1775, Colonel Moultrie, having received orders from the Council of Safety to take Fort Johnson on James Island, S. C., thought a flag necessary; so he devised a large blue flag with a white crescent in the upper corner next the staff, this design being suggested by the blue uniforms of the garrison and the silver crescents which the men wore on their caps, inscribed with the words "Liberty or Death." Colonel Moultrie in his memoirs says that "this was the first American flag displayed in the South" (see also 406).

390. (See 383.)

391. Washington's Navy, 1775.—This was the flag flown by Washington's six cruisers in 1775. The *Lady Washington*, a brig fitted out in 1775, was captured by H. M. S. *Fowey* on December 7 of the same year, and her colors were placed in the Admiralty Office in London. They are described as bearing a pale green pine tree on a field of white bunting, with the motto, "Appeal to Heaven." After the Continental ensign (364) came into use by Washington's fleet, January 1, 1776, this white flag and green pine tree, with variations (399), was adopted April 29, 1776, as the ensign of the vessels of the Massachusetts navy (see 399 and 401; see also the history of our Stars and Stripes, printed elsewhere in this number).

392. Bedford Flag.—Probably the most interesting flag of all the colonial period is this standard of the Bedford Minute Men, carried by them at the battle of Concord. It is small, being only about 2½ feet square, but carries woven among its faded threads the love and veneration of a grateful America. Wrought in silver and gold on a red ground is an arm appearing from a cloud, with the hand holding a sword. The scroll is in gold with the motto, "Vince Aut Morire" (Conquer or die). It now has an honored place among the relics of the Historical Society at Bedford, Mass. It bears a striking resemblance to the Ostend Fight ensign (1144).

393. Philadelphia Light Horse.—This standard, presented to the Philadelphia troop of Light Horse by Capt. Abraham Markoe, and still displayed at the troop's anniversary dinners, is one of the first American flags in which thirteen stripes were used. This banner was carried by the Philadelphia troop when it acted as escort to General Washington from Philadelphia to New York on his way to Cambridge, there to assume command of the Continental Army. The Philadelphia troop was composed of 28 men, who equipped themselves at their own expense. Captain Markoe resigned his commission as captain of this organization late in 1775, in obedience to an edict of King Christian VII of Denmark, who forbade any of his subjects to engage in the war against Great Britain. Before tendering his resignation, however, the commander presented this standard to the troop.

394. New York.—The armed ships of New York are reported to have used this flag in 1775. The beaver reminds us eloquently of the prominent part the lucrative fur trade played in the early history of the colony. The glowing accounts brought back by Hudson of the rich harvest of valuable furs to be secured led Holland to authorize the trading companies which colonized New York. The beaver was used on the seal of New Netherlands and found a place on the seal of New York City.

395. Bennington.—At the battle of Bennington, Vt., August 16, 1777, 2,000 Green Mountain boys, under Gen. John Stark, practically annihilated the forces under General Baum, sent to capture stores and to overawe the country. The loss of these troops was partly responsible for the failure of Burgoyne's carefully planned campaign and was one of the events that led to the open recognition of our country by France.

396. Rhode Island.—Fashioned from white silk with thirteen stars on a canton of blue and showing a blue anchor surmounted by the

motto of the State, "Hope," on the center of the field, this regimental banner of Rhode Island easily takes high rank as an attractive flag; nor is it lacking in interesting historic associations. Carried safely through the intense struggle of Brandywine, at Trenton, and at Yorktown, it now rests in the State House at Providence, mute witness to the heroism of those who bore it to final victory (see 313).

397. LINKED HAND.—Thirteen mailed hands grasping the thirteen links of an endless chain formed one of the early representations of the spirit of unity in the colonies. It recognized the sentiment of "United we stand," and foreshadowed the "E Pluribus Unum," soon to appear as our motto. The number thirteen was prominent on many of the early standards. A common variation shows a mailed hand grasping a bundle of thirteen arrows.

THE RATTLESNAKE FLAGS

398. GADSDEN FLAG. **400.** SOUTH CAROLINA NAVY. **405.** CULPEPER MINUTE MEN.—The rattlesnake device was seen again and again on our early flags. One writer of the time quaintly stated that as the rattlesnake's eye exceeded in brightness that of any other animal, and she had no eyelids, she might therefore be esteemed an emblem of vigilance; that inasmuch as she never began an attack, nor, when once engaged, ever surrendered, she was therefore an emblem of magnanimity and true courage. We are bound to suspect, however, that it was the deadly bite of the rattler that was foremost in the minds of the revolutionists who used the banners. The "Don't tread on me," seen on all four of the rattlesnake flags (365, 398, 400, and 405), lends color to this view.

But it was not only the qualities of the snake itself, but also the ease with which symbolism could be added, illustrated in the use of the distinctive thirteen rattles, that increased the number and variety of the rattlesnake flags. "'Tis curious and amazing," in the words of the writer quoted above, "to observe how distinct and independent of each other the rattles of this animal are, and how firmly they are united together. One of the rattles, singly, is incapable of producing a sound, but the ringing of thirteen together is sufficient to alarm the boldest man living."

Flag 398 was presented by Colonel Gadsden to Commodore Hopkins to serve as the latter's flag as the commander-in-chief of the fleet constructed by Congress, and was hoisted at the main mast of the *Alfred* December 3, 1775. At the same time John Paul Jones hoisted the union striped flag (364) at the stern (see history of Stars and Stripes elsewhere in this number). On the same day 365 was hoisted as the jack of the navy. Thus 364, 365, and 398 are the most historic flags of the U. S. Navy prior to the adoption of the Stars and Stripes.

The Southern colonies seemed especially fond of the device. South Carolina adopted for her navy the red and blue stripes crossed by the gliding snake, as seen in 400.

Loyal and energetic enthusiasts in the cause of liberty, the people of the Piedmont region of Virginia rallied to the support of the Continental Congress. Culpeper County was a center of organization and her minute men typified on their spirited banner (405) their fearlessness and independence.

THE LIBERTY AND PINE TREE FLAGS

399. LIBERTY TREE FLAG OF 1776. **401.** MASSACHUSETTS NAVY.—In all early accounts of colonial activities, liberty poles and trees bear an important part. A wide-spreading live oak in Charleston, near the home of Christopher Gadsden, made a shelter under which the leading spirits of the day often met to discuss political questions, and there the Declaration of Independence was first read to the people of the city. The Sons of Liberty, meeting under the fine old elm in Hanover Square, gave Boston her Liberty Tree. Under its shade a notable meeting was held just previous to the destruction of the tea, which led General Gage to order that it be hewn down. Inasmuch as the felling of a venerable tree always touches tender chords in the thoughtful, it is not surprising that the loss of this one fanned into flame the very embers of discontent that Gage had hoped to stamp out by its destruction.

On flag 399 appears the well-loved and famous Liberty Tree. This was an emblem often used. The solemn motto, "An Appeal to God," tells us of the quiet firmness with which our forefathers "highly resolved" to claim the birthright of freedom for themselves and their children. The sentiment first appeared in the "Address of the Provincial Congress of Massachusetts" to Great Britain, the closing sentence of which began, "Appealing to Heaven for the justice of our cause." Through the long years that have passed since they won their victories, the greater task has developed for us, not only to hold with equal steadiness and firmness the great principles upon which our nation stands, but also to fight with equal fortitude and sacrifice that these gifts may be extended to the oppressed of all nations.

When in 1652 the colony of Massachusetts first established a mint, the general court ordained that all pieces of money should bear on one side a tree, thus bringing into being the famous pine-tree shillings. In April, 1776, the Massachusetts council passed a resolution as follows:

"Resolved, That . . . the colors [for the sea service] be a white flag with a green pine tree and the inscription, 'An Appeal to Heaven.'"

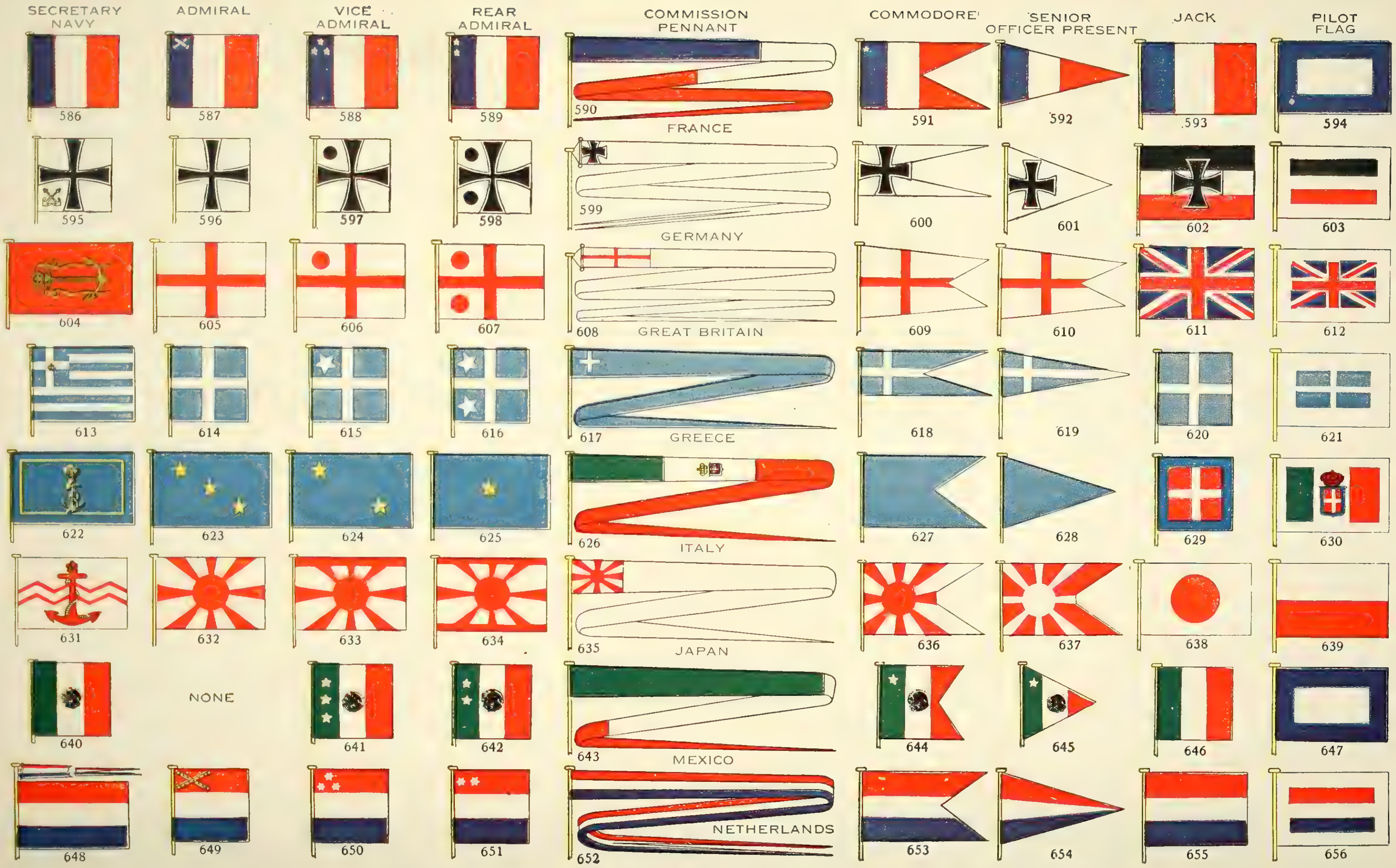
Flag 391 had previously become familiar on the seas as the ensign of Washington's cruisers. The English newspapers of the time contain many references to this striking ensign.

In 401 an extra significance is added by the coiled snake at the foot of the tree and the oft-used "Don't tread on me."

400. (See 398.)

401. (See 399.)

402. The Westmoreland County Battalion of Pennsylvania was raised in 1775 by John Proctor and is still preserved in New Alexandria, Pa. It is a British ensign of red silk, with the addition of the coiled rattlesnake and the familiar legend, "Don't Tread On Me."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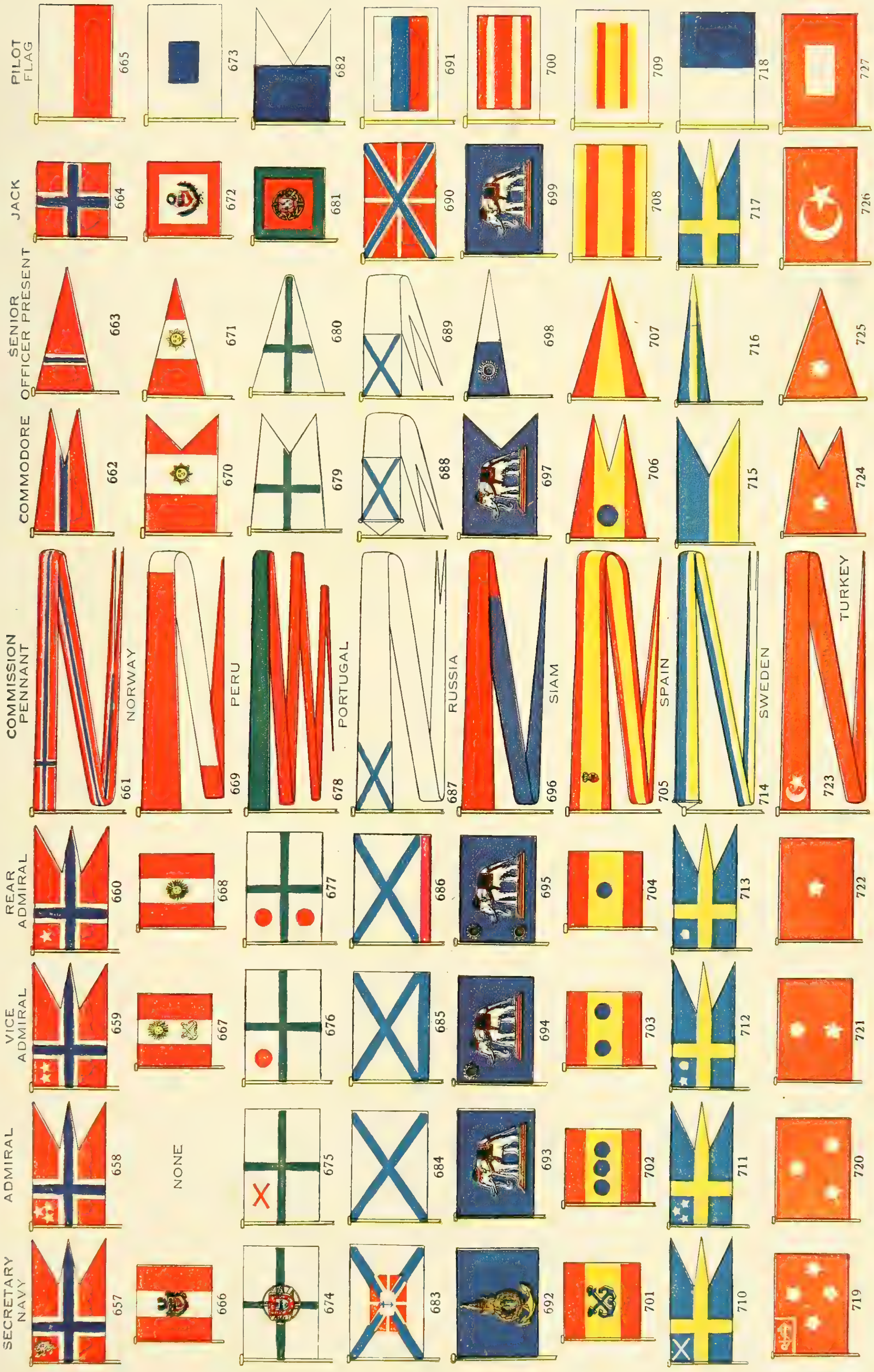
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403. CONNECTICUT FLAG.—The activities of 1775 and 1776 emphasized the need of colors to distinguish the various troops. Soon after the battle of Bunker Hill the States began to make colors for themselves. Connecticut, with this flag, was one of the first. Her motto, "Qui transtulit sustinet," of which a free translation is, "God, who transported us hither, will sustain us," was put upon one side of several flags of the time, with "An Appeal to Heaven," the Massachusetts motto, upon the other. This shows almost the identical form of the permanent Connecticut flag (305).

404. MERCHANT AND PRIVATEER ENSIGN.—Those dashing privateers, whose exploits made such entertaining reading in the history books of our childhood days, flew this ensign of thirteen stripes. Many references and prints of "striped flaggs" in contemporary British literature prove its prevalence. The color of the stripes varied according to the fancy of the commanding officer. Merchant vessels nearly always displayed this flag.

405. (See 398.)

406. FORT MOULTRIE.—This flag flew from the southeast bastion of Fort Moultrie (then called Fort Sullivan), in Charleston Harbor, during the famous Revolutionary battle of June 28, 1776. Early in the attack the sky-colored emblem fell outside the parapet. Sergeant William Jasper, crying out, "Don't let us fight without a flag," vaulted over the wall under a rain of bullets, secured the flag, fixed it to a staff, and, triumphantly planting it firmly in place, leaped down within the parapet to safety. Three ringing cheers greeted his return. After an intense artillery attack lasting ten hours, the British forces were compelled to withdraw, and the next day the entire fleet left Charleston Harbor. The name of the fort was changed to Moultrie in honor of the gallant defender. This victory left the Southern States secure from invasion for more than two years. This flag is identical with Colonel Moultrie's earlier flag (389) first raised in September, 1775, with the addition of the word "Liberty" in white letters.

407. PULASKI.—Brave and gallant Count Pulaski, who gave his life for our cause in 1779, fought beneath this banner. A Polish count volunteering as a private, distinguished by his coolness and courage at the battle of Brandywine,—he was made Chief of Dragoons, with the rank of Brigadier-General. The Moravian Sisters, of Bethlehem, Pennsylvania, embroidered this flag for him. One side bears the words "Unitas Virtus Forcior" (which last word, by the way, should be *fortior*), "Union makes valor stronger," encircling the letters U. S. The other side bears the motto, "Non Alius Regit," "No other governs," with the all-seeing eye in the center triangle. Pulaski raised his own independent corps of infantry and light cavalry, and later commanded the French and American forces at the siege of Savannah, where he was mortally wounded. Thus fell, at the early age of 31, one of the many heroic foreign brothers who fought with us for liberty.

408, 409. NEW HAMPSHIRE REGIMENT.—These two New Hampshire flags belonged to the Second Regiment of the State. They were taken at Fort Anne by the British Ninth Regiment of Foot, commanded by Lieutenant Colonel Hill, a few weeks before the decisive battle of Saratoga. After the surrender of Burgoyne, Colonel Hill carried them to England, where they were treasured by his descendants, finally falling into the hands of Col. George W. Rogers, of Wykeham, Sussex. From him they were purchased in 1912 by Mr. Edward Tuck, and presented to the New Hampshire Historical Society. They are of the same size, approximately five by five and one-half feet.

The buff flag (408) with a golden disk in the center bears the motto, "We are one." From the disk radiate thirteen rays and thirteen thin lines, each line touching a golden ring in the outer circle, with each ring bearing the name of one of the thirteen States. In the upper left corner are eight red and pale blue triangles which form two crosses.

The blue silk flag with the gold fringe (409) bears the letters N. H., with "2nd Regt." below them on the small red shield in the center. The motto on the scroll is significant, "The glory, not the prey." The two crosses combined in the upper corner are of red and gold.

These two New Hampshire flags are probably the only ones now in existence which were captured during the Revolutionary War.

410. FIRST PENNSYLVANIA RIFLES.—"A deep green ground, the device a tiger, partly enclosed by toils, attempting the pass, defended by a hunter with a spear (in white) on a crimson field"—thus reads the description of the standard of the First Pennsylvania Rifles in the words of Lieutenant Colonel Hand, written March 8, 1776. During the war this regiment served in every one of the thirteen colonies, and this banner waved at many a famous battle—at Trenton, Princeton, Brandywine, Monmouth, and Yorktown, to mention only a few.

411. THIRD MARYLAND.—The existence of this national flag, known to have been used as a regimental flag in the Revolution, sheds a bit of light on the darkness surrounding the extent to which the stars and stripes were used at the time. It is certain that this identical flag was carried by the Third Maryland Regiment at the battle of Cowpens, in January, 1778. William Bachelor was the color-bearer. It is made of thin cotton, and is remarkably well preserved. It is a little over five feet long, and almost a yard wide, and is now in the flag room of the capitol at Annapolis. It is the only instance of the use of the "Stars and Stripes" as a color (*i. e.,* by land troops), national or regimental, during the Revolutionary War, that of 1812, and the Mexican War (See history of Stars and Stripes printed elsewhere in this number.)

412. EUTAW STANDARD.—This square of brilliant crimson formed the battle flag of Col William Washington's cavalry troop, and led the way to victory at Cowpens and at the final battle of the Revolution, Eutaw Springs, in 1781—two decisive battles of the war in the South. Tradition tells a quaint story of its origin. It seems that Colonel Washington, on a hurried visit to his *fiancée,* Miss Jane Elliot, of South Carolina, mentioned that he had no flag. With quick flashes of her scissors, she

cut a square of gay, red damask from the back of a drawing-room chair, saying, "Colonel, make this your standard." It was mounted on a hickory pole and borne at the head of his troops till the end of the war. In 1827 it was presented to the Washington Light Infantry of Charleston by Mrs. Jane Elliot Washington, in person, and is one of our most treasured banners.

413. GATINOIS REGIMENT. **414.** SAINTOGNE REGIMENT. **415.** ROYAL DEUX PONTS.—A number of French regiments were sent to America during the Revolutionary War. All served with gallantry and distinction, Savannah and Yorktown both being honored by their energetic and fearless fighting. The flags of all these regiments followed one general pattern, the basic idea being a white flag with colored triangles making squares in the corners and leaving a white cross extending across the center. They were about four feet square and the colors were painted on them.

The Gatinois regiment (413) was formed in 1776 out of two sections of a famous old French regiment of Auvergne, and in honor of its gallant conduct at Yorktown was ever after known as the Royal Auvergne.

The blue, red, green, and yellow triangles of the flag of the Saintogne regiment (414) speak eloquently of dashing courage and hearty loyalty at Yorktown.

Each arm of the St. Andrew's cross in the Royal Deux Ponts (415) bears the golden fleur-de-lis of France, while a crown holds the center. Quartered on the flag are the arms of the Duke of Deux Ponts over red and blue stripes.

Rochambeau, a French count, with the rank of lieutenant general, was in command of the 6,000 troops sent to our aid. He displayed a fine spirit throughout the war, maintaining his soldiers as part of the American army and holding himself as entirely under Washington's command. (See "Our First Alliance," by J. J. Jusserand, NATIONAL GEOGRAPHIC MAGAZINE, June, 1917.)

416. ANSBACH.—Three Ansbach *Bayreuth* colors are now in the chapel at West Point. They were among the German colors captured at Yorktown. All are similar in main design, made of heavy white damask, embroidered in colored silk. On one side is the red Brandenburg eagle, with the words, "Pro Principe et Patria" on the scroll above. The other side shows the green laurel and palm, with the monogrammed letters S. ET C. A., the first four letters of which stand for "Sinceriter et Constanter" and the last for Prince Alexander, then reigning. It is supposed that eighteen German colors were surrendered at Yorktown; but the others are missing.

417. NEW YORK REGIMENT.—It is surprising to note how few regimental flags used in the Revolution are in existence today. This is the most elaborate and detailed of any of them. It was made in 1778 or 1779, and is approximately six feet square, of dark blue silk with a blue fringe, and bears on each side the arms of the State. These arms from that far-away day to this have remained practically unchanged in general design. The two figures are clad in costumes of the day. The dresses are of cloth of gold, with red mantles.

This regimental color was carried by Col. Peter Gansevoort at Yorktown. This is the same Colonel Gansevoort who was in command of Fort Stanwix, or Fort Schuyler, when he caused to be hoisted the first Stars and Stripes over a fort or garrison of the army, August 3, 1777. (See History of Stars and Stripes in this number.)

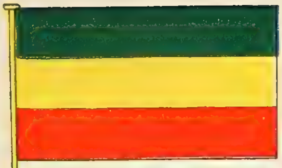
418. BUCKS OF AMERICA.—John Hancock whose presence in Lexington was an additional cause of the *sortie* that led to the famous battle, and who, with Adams, was especially excepted in the pardon issued on the 12th of June, 1775, by General Gage, as being "of too flagitious a nature to admit of any other consideration than that of condign punishment," yet lived to a ripe old age, and became the first Governor of the State of Massachusetts. After the close of the Revolution, one of his official acts as Governor was to present this banner to the colored company, called the "Bucks of America," in acknowledgment of their valor. The flag is badly faded now, yet shows unmistakable signs of former beauty. The stars in the blue union were gilded. In size it is a little over five feet long by three and one-half feet wide. Notice the "Buck" under the green tree.

419. TALLMADGE'S DRAGOONS.—Many a daring exploit of Major Tallmadge, of Connecticut, and his dragoons adds luster to this flag. On September 5, 1779, without the loss of a man, Tallmadge captured 500 Tories at Lloyd's Neck, on Long Island. His men fought at Brandywine, Germantown, and Monmouth. This pink flag of very thin silk is about two and one-half feet square. The two wings on the center disk are of silver, while the ten rays are golden. The canton deserves especial mention, as the thirteen stripes are made by six strips of white ribbon sewed to the silk of the flag. It is remarkably well preserved.

420. WEBB'S REGIMENT.—This little flag belonged to the troops under Colonel Webb, undoubtedly the Third Connecticut Regiment, which during the course of the war was made up from the depleted Second and the Ninth. It is a small, tattered, yellow flag. A pink ribbon ties the green wreath, while the sword is painted the color of steel, and the "I" is black. An old account of the colors of the various Connecticut troops states that the flag of the first regiment was yellow; so it is possible that originally this was the banner of that unit.

421. The golden lilies of France (reduced to three in number by Charles V in 1365) were borne by many intrepid explorers anxious to expand the dominion of the Bourbons in the New World. Joliet and Marquette, the pioneer missionaries who rediscovered the Father of Waters, and La Salle, Iberville, and Bienville, who figured so conspicuously in the history of the exploration and colonization of Louisiana, all bore the fleurs-de-lis in the wilderness.

422. FRENCH FLAG, CHAMPLAIN AND DE GRASSE.—This was the ensign of daring Samuel de Champlain as he sailed down the lake that bears his name. It was also the flag of Count De Grasse, who, with his fleet of twenty-four ships of the line, sailed from the West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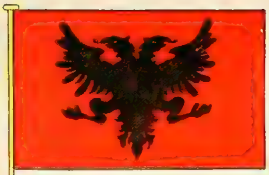
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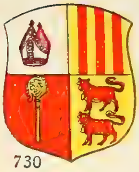
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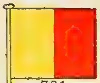
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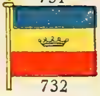
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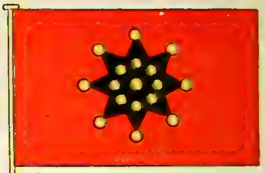
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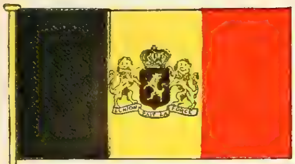
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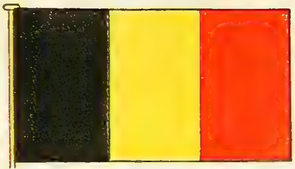
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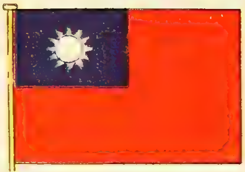
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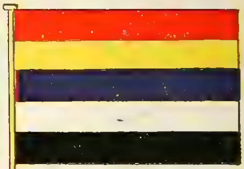
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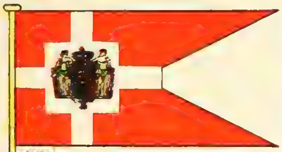
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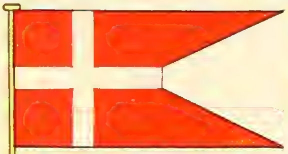
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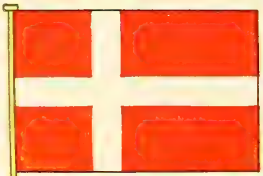
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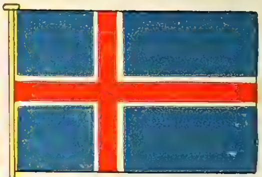
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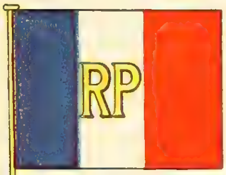
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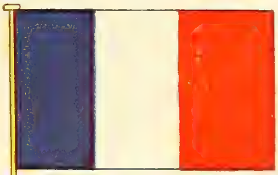
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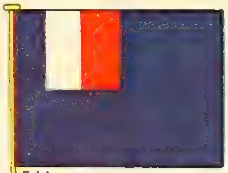
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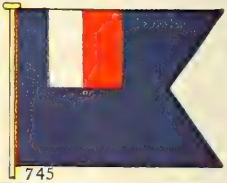
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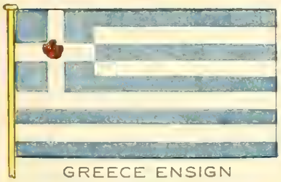
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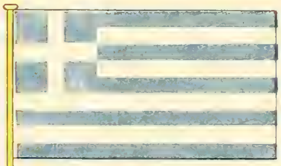
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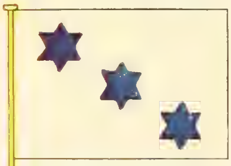
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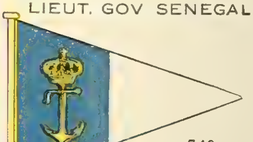
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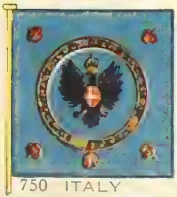
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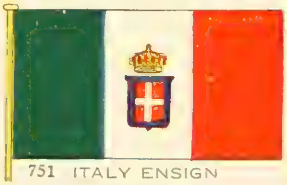
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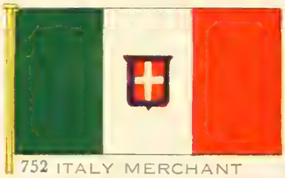
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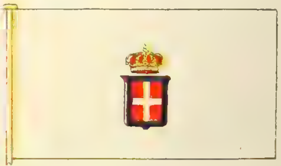
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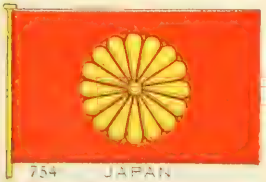
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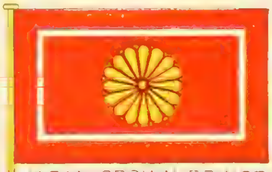
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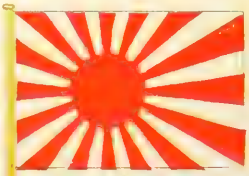
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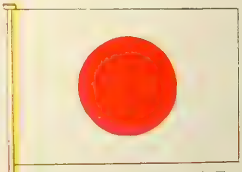
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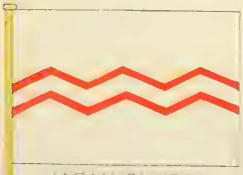
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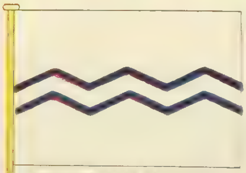
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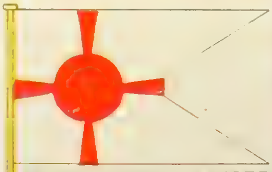
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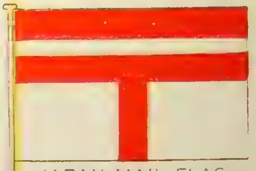
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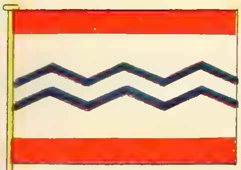

JAPAN REPAIR SHIPS
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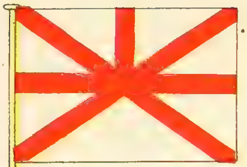

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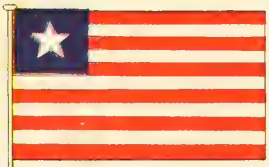
COAST GUARD SHIPS



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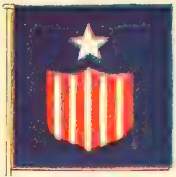

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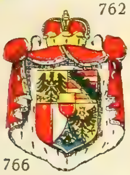

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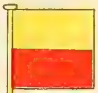

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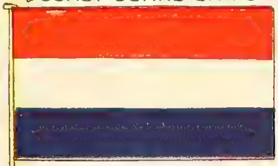
LIECHTENSTEIN



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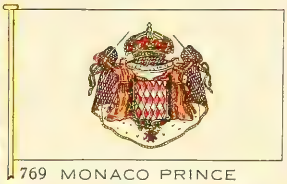

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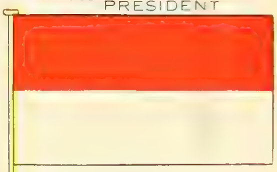

MONACO NATIONAL
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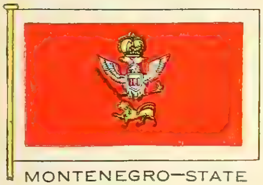

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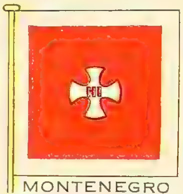

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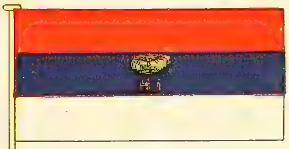

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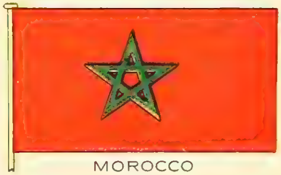

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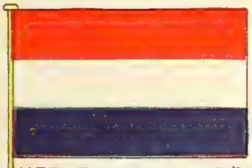

NETHERLANDS ENSIGN
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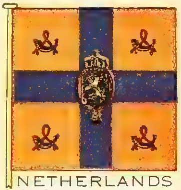

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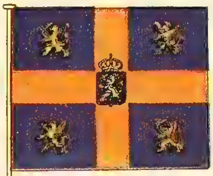

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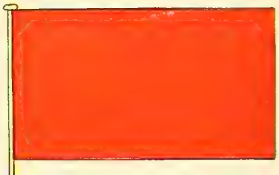

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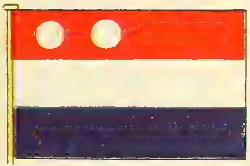

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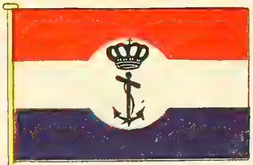
& CURACAO



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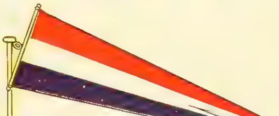
MARINE RESERVE



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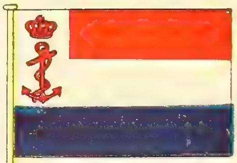
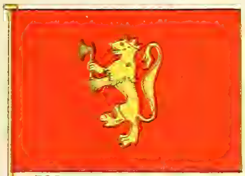
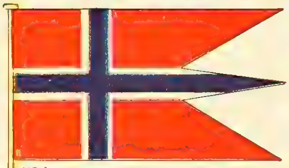
ABOVE ENSIGN FOR
GOV GENERAL OF DUTCH INDIES



NETHERLANDS
782 REPAIR SHIPS



783 NORWAY
ROYAL STANDARD



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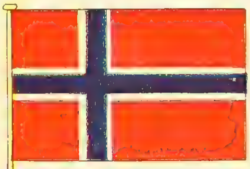

NORWAY MERCHANT
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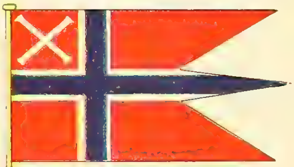

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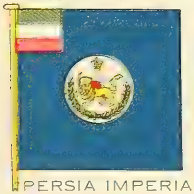

PERSIA IMPERIAL
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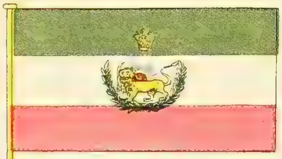
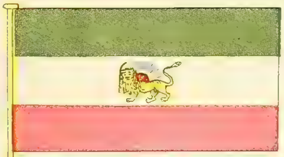
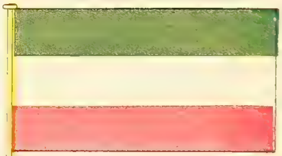


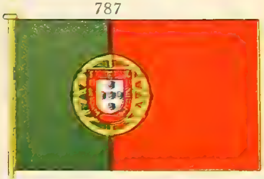
788 PERSIA MILITARY



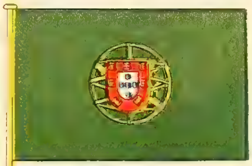
789 PERSIA ENSIGN



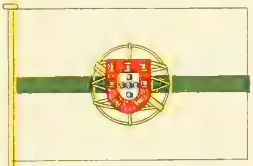
790 PERSIA MERCHANT



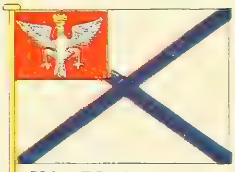
791 PORTUGAL ENSIGN



792 PORTUGAL
PRESIDENTS



793 PORTUGAL
GOV. GENL PROVINCE



794 POLAND

Indies in the summer of 1781, entered the Chesapeake, and met the fleet of Admiral Thomas Graves, compelling him to return to New York for refitting and repairs. Then, by blocking the mouths of the York and James rivers, he succeeded in cutting off communication between the British forces at Yorktown and those at New York, and thus assisted materially in causing the famous surrender that closed the war (see NATIONAL GEOGRAPHIC MAGAZINE, June, 1917, pages 527-548).

423. NAPOLEON'S FLAG, LOUISIANA, 1803.—Among the many changes of flag that helped to make romantic the early history of Louisiana, this of Napoleon stands out as memorable because it was hauled down to give place for "Old Glory" on the 20th of December, 1803.

Each of the colors of this flag is woven into the tissue of French history by myriad threads. The blue banner of St. Martin was first used by the kings of France in the fourth century, and for 600 years was carried into battle as a sure omen of victory. Next came the well-loved Auriflamme, the gold-broidered banner of St. Denis. This in turn gave place to the "cornette blanche"—a plain white flag emblematic of the Virgin Mary, carried by Joan of Arc, and later adopted by the Bourbons.

So it was not purely an accident that the choice of the populace storming the Bastille, in 1789, should have been the tricolor; and it is easy to see how the historic associations, as well as the beauty and simplicity of the banner itself, made it the permanent emblem of France.

It was fourteen years after this tricolor had become the national flag of France that the remarkable and startling chain of events, occurring a quarter of the way around the world from our Father of Waters, made it possible for us to purchase the wonderful Louisiana country.

424. RUSSIAN-AMERICAN COMPANY, ALASKA.—Although the Alaskan coast was explored in 1741, it was not until 1794 that the first, and even then only partially accurate, chart of the Alaskan mainland was made. Kodiak was settled in 1784, and in the succeeding years private traders raided and robbed the Indian villages, until the reign of lawlessness was checked by the formation, in 1799, of the Russian-American Company, which remained dominant in Alaskan matters for sixty years. And thus it was that while the young American Republic was getting on its feet and meeting its first problems of administration and expansion this white, blue, and red standard was flaunting in the sunshine from many a ship through the long days of Alaskan summers and flapping from the flagstaffs of many a trading post under the steely glitter of the long winter nights. In 1867 the Alaska purchase placed our own starry flag on those valuable far-northern shores.

425. AZTEC STANDARD—BATTLE OF OTUMBA.—History says that Cortes and his Spaniards, with their allies, the Tlaxcallans, were on the verge of defeat at the battle of Otumba, when the Spanish leader, descrying the gorgeously decorated litter of the Aztec general and observing that he carried the battle standard lashed to his back, summoned several cavaliers and, praying to Santiago (429), they fought their way to the Aztec's side. Cortes overthrew the general and Salamanca cut the standard from his back. The loss of their emblem demoralized the Aztec forces and turned the tide of the battle. Cortes afterward presented the standard to the Tlaxcallan chieftain, Maxixca, as a reward for his aid and friendship, and the Spanish King caused it to be represented on Salamanca's coat-of-arms. This illustration of the standard, which was called the Quetzalteopamitl and was composed of a golden sun surrounded by the richest plumes of the quetzal (see 487), was taken from the picture writings of the Tlaxcallans, shown in the Lienzo of Tlaxcalla (see 426).

426. BANNERS, MEXICAN. — The Lienzo of Tlaxcalla is a document of great importance, as it represents in hieroglyphics the principal events of the conquest of Mexico painted by the Indians themselves. It is on long bands of linen and is divided into 86 illustrations by perpendicular lines. The Tlaxcallans were a fierce mountain people, implacable foes of the Aztecs, and became the staunch allies of Cortes after their armies were decisively defeated by the Spaniards on their way to Tenochtitlan. In numerous of these illustrations Cortes and his cavaliers are shown in battle, dressed in their armor and astride their prancing steeds, while by their sides are shown their Tlaxcallan allies, armed with their crude native weapons and carrying their beautiful banners (426) cleverly constructed of precious metals and bright-colored plumes, mounted on wooden staffs and lashed to their backs to allow free use of both arms.

427. BANNERS—INCAS. BEFORE PIZARRO.—"The Children of the Sun," as the Incas were called, lived among the mountain fastnesses of Peru and were as cultured as the Aztecs of Mexico. Their country has been called the "Ophir of the Occident," and well it deserved the name, for its treasures of precious metals exceeded the dreams of avarice. Like the Aztecs, these ancient Peruvians used the gaudy plumage of tropical birds for decorative purposes, and this sketch of two old banners illustrates the feathered halyards and trimming. These Sun-worshipers also had great reverence for the rainbow, and used a representation of it in their royal insignia. An old description, referring to the ceremony incident to the recognition of the heir-apparent, says: "Being recognized as of age, he was given command of his father's armies and was entitled to display the royal standard of the rainbow in his military campaigns."

428. CORTES STANDARD.—"The hardy and romantic adventurers who followed in the wake of Columbus were not merely sordid gold hunters; they were the descendants of soldiers who had for centuries fought in the holy wars of the Cross against the Crescent, and in their veins flowed the blood of the knight-errant and Crusader. Gold they sought with eagerness and without scruple; but they wanted glory almost as much as they wanted gold, and in the pursuit of both they carried aloft the banner of the Church."

Around the edge of this standard of Cortes there appears in Spanish: "This standard was that carried by Hernando Cortes in the Conquest of Mexico." It now hangs in the National Museum at Mexico City—a relic of the stirring times when the present city was Tenochtitlan, the Aztec capital and the scene of Montezuma's grandeur. Another standard carried by Cortes was, according to Prescott, "of black velvet, embroidered with gold, and emblazoned with a red cross amidst flames of blue and white, with this motto in Latin beneath: 'Friends, let us follow the Cross; and under this sign, if we have faith, we shall conquer.'"

429. PIZARRO.—This is the banner of Pizarro, which the people of Cuzco, the royal city of the Incas, presented, in 1824, to General de Sucre, the trusted lieutenant of the liberator Bolivar and the victor of the battle of Ayacucho, which broke the power of imperial Spain in South America. De Sucre, in turn, presented it to his commander-in-chief, who gave it to his native city of Caracas, Venezuela, where it is now treasured. This standard is said to have been carried by Pizarro when he entered Cuzco, a conqueror, in 1533. It hung all those intervening years in the cathedral of the ancient Peruvian city. In a letter to Bolivar, de Sucre said: "I present to you this standard which Pizarro bore to Cuzco 300 years ago; a portion of the material is in shreds, but it possesses the merit of having led the conquerors of Peru."

Strictly speaking, the flag is really a banner, or fanion, such as was generally used in the fifteenth and sixteenth centuries. On one of its faces of scarlet damask the arms of Charles V are embroidered; on the other is represented the Apostle St. James (Santiago), in an attitude of combat, mounted on a white horse. When the standard was received in Caracas, the reverse side consisted only of white satin, and it was not discovered until 1872 that this was not a part of the flag, but a covering to protect its most interesting face, upon which is painted and embroidered the figure of the mounted warrior. The red cross of Santiago appears on his coat-of-mail, but the hilt is all that remains of the sword in his hand.

430. PIZARRO.—General San Martin, "the liberator of the South," believed this flag to be the standard of Pizarro; but old documents relating to the founding of Lima by the Spanish conqueror seem to prove that it was the banner of that city. The escutcheon granted to Lima by Charles V, in 1537, appears on the flag.

The Municipal Council of Lima presented the standard to San Martin in 1821, after his successful campaigns in Chile, and in his farewell proclamation to the Peruvians the following year, prior to his departure for Europe, he said: "I have in my possession the standard which Pizarro bore to enslave the empire of the Incas. I have ceased to be a public man, but by this alone I am rewarded with usury for ten years of revolution and war." In his last testament he provided that "the standard which the Spanish bandit Pizarro waved in the conquest of Peru be returned to the said Republic."

431. SAN MARTIN.—Flying this flag, General San Martin came north into Peru with his *Ejercito Libertador*, or liberating army, in 1820, after having effected the complete overthrow of the royalists in Chile. Forces sent against the liberator joined his army, and in Lima even the Viceroy's secretaries were revolutionists at heart. General San Martin entered the capital on July 12, 1821, and was presented with the flag of Pizarro (see 430); on July 28 the proclamation of independence was issued in the Plaza Major.

After laying the foundations of a republican government, the Protector journeyed north to Guayaquil, Ecuador, to confer with General Simon Bolivar, who had accomplished independence for the Northern States of South America. Then San Martin returned to Lima and, after placing the government in the hands of the first constituent congress, retired to Europe, the recipient of every honor within the gift of a grateful people.

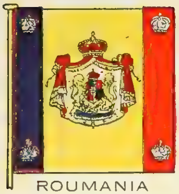
432. ARMY OF THE ANDES.—This silken "Banner of the Sun," as it was called, with its beautiful, embroidered design and edges decorated with precious stones, was made for San Martin's Army of the Andes by the women of Mendoza City, which lies at the foot of the Chilo-Argentine Cordillera on the Argentine side. The revolutionary leader carried it over the snow-covered mountains into Chile, which he liberated.

The flag was publicly consecrated in Mendoza City with elaborate ceremony on January 5, 1817. As it was unfurled a salute of twenty-one guns was fired, the populace shouting, "Long live our Argentine country." General San Martin then, holding aloft the banner, exclaimed in a vibrating voice, "Soldiers! Swear to uphold this standard and die, if necessary, in its defense, as I swear to die!" "We swear to do so!" came the response, amid a triple discharge of musketry, followed by a salvo of twenty-five guns.

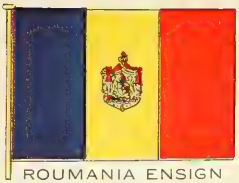
The design of the badge on the field of blue and white is practically the same as the present Argentine coat-of-arms (see 453).

433. BOLIVAR.—Under this flag Simon Bolivar, the *liberator*, broke the hold of imperial Spain upon its provinces in northern South America early in the 19th century. Venezuela, Colombia, Bolivia, and Peru owe their independence to him and he is worshiped as a national hero in these countries. It is said that while visiting the United States on his return journey from Paris, where he had been an eyewitness to some of the stirring scenes of the last days of the French revolution, he was first impressed with the desirability of political independence, and, returning to Venezuela, he began the military operations which freed his native land.

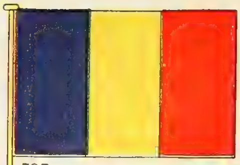
434. BANNER OF HIDALGO.—"*Viva* America, *viva* religion, death to bad government," was the war cry of Mexico's soldier-priest, Miguel Hidalgo, who, shortly after the American colonies had attained their independence, led the popular revolt against Spanish rule in the country to the south of us. His flag was the sacred banner of the Virgin of Guadalupe, the



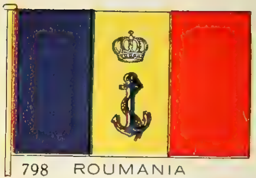
ROUMANIA
795 STANDARD



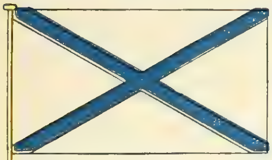
ROUMANIA ENSIGN
796



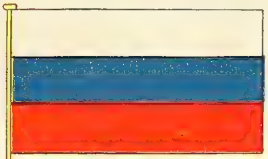
797 ROUMANIA
MERCHANT



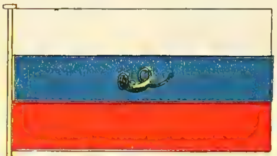
798 ROUMANIA
COAST GUARD



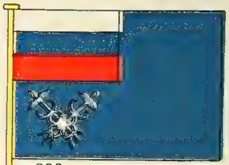
799 RUSSIA ENSIGN



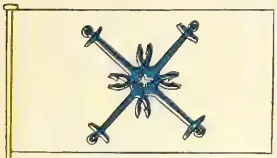
RUSSIA MERCHANT
800



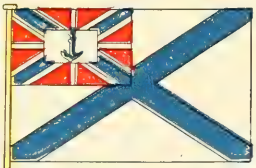
801 RUSSIA
VOLUNTEER FLEET



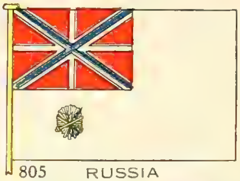
802 RUSSIA
CUSTOMS FLAG



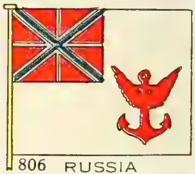
RUSSIA ADMIRALTY
803



RUSSIA C IN C NAVY
804



805 RUSSIA
MINISTER OF WAR



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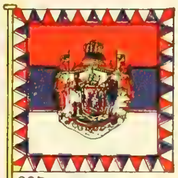
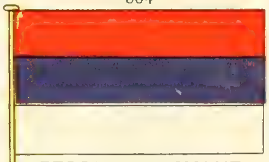
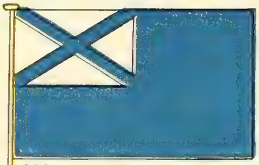
AERONAUTIC SERVICE



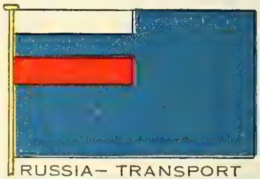
807 SERBIA
ROYAL STANDARD



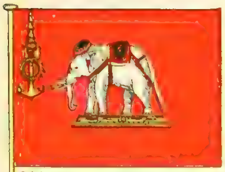
SERBIA MERCHANT
808



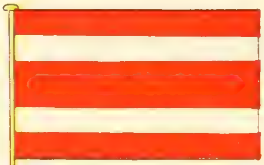
809 RUSSIA
TRANSPORT NAVY



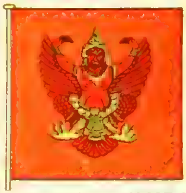
RUSSIA– TRANSPORT
810 CIVILIAN CREW



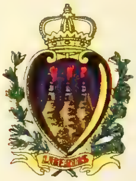
811 SIAM ENSIGN

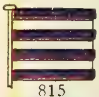


812 SIAM MERCHANT



813
SIAM ROYAL STANDARD





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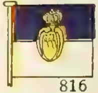
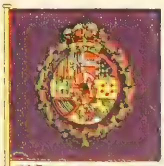
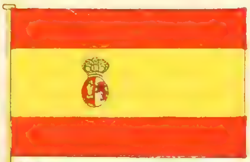


814 SAN MARINO 816



817 SPAIN
ROYAL STANDARD



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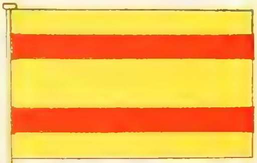

SPAIN MERCHANT
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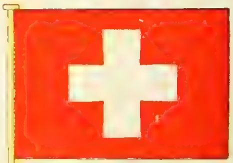

SWITZERLAND
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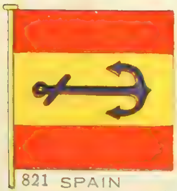

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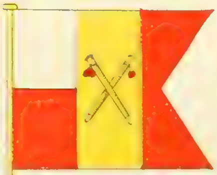
CAPT. GENL. FLEET



SPAIN AMBASSADOR
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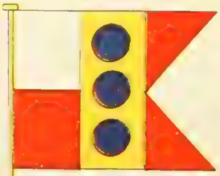

SPAIN MINISTER
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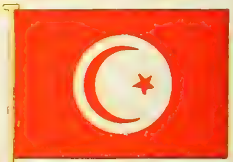
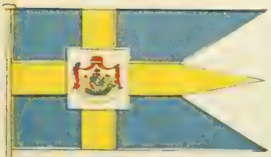
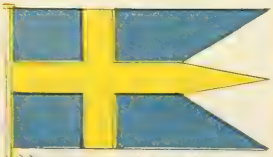


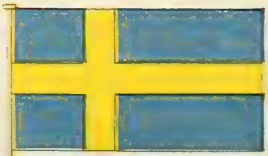
824 TUNIS



825 SWEDEN
ROYAL STANDARD



826 SWEDEN ENSIGN



SWEDEN MERCHANT
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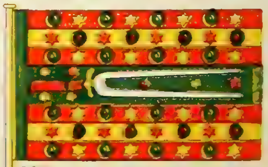

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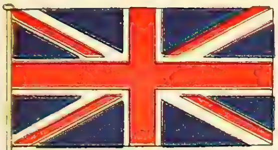
FLAG OF BRITISH EMPIRE
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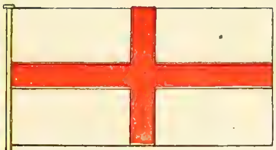
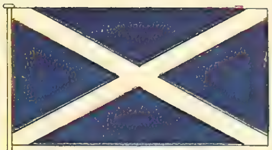

ST GEORGE'S CROSS
830 ENGLAND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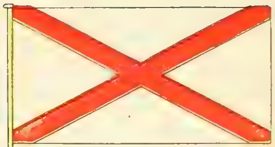
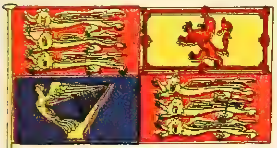
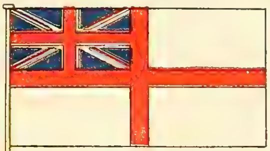
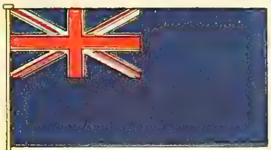
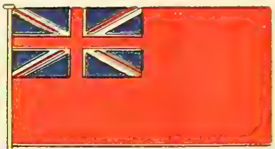
831 SCOTLAND


ST PATRICK'S CROSS
832 IRELAND


ROYAL STANDARD
833


WHITE ENSIGN
VESSELS OF WAR
834


BLUE ENSIGN
NAVAL RESERVE VESSELS
835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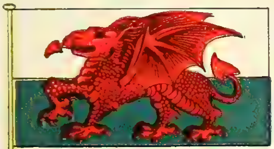
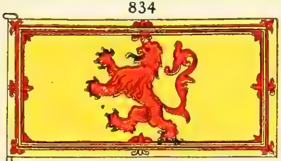
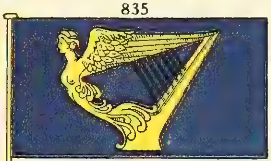
MERCHANT


THE RED DRAGON
837 WALES


STANDARD OF SCOTLAND
838


STANDARD OF IRELAND
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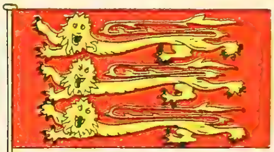
STANDARD OF ENGLAND
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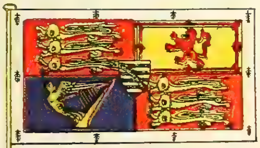
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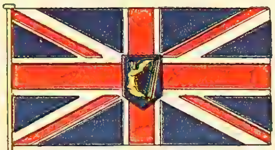
ROYAL FAMILY


LORD LIEUT IRELAND
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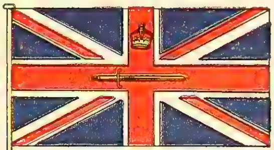
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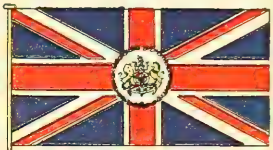
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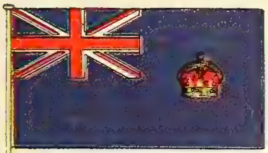
FUNCTIONARIES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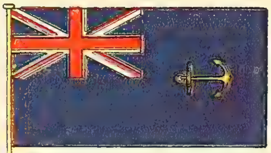
ADMIRALTY VESSELS
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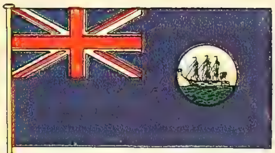
BOARD TRADE VESSELS
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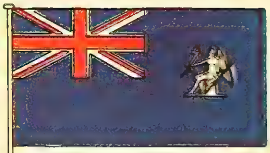
POST OFFICE VESSELS
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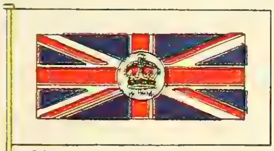
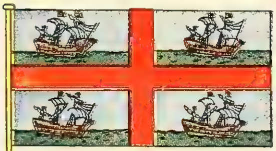
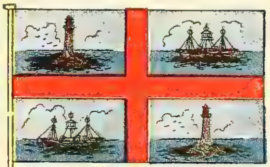

849 KING'S
HARBOUR MASTER


850 TRINITY HOUSE
ENGLISH LIGHTS


IRISH LIGHTS BOARD
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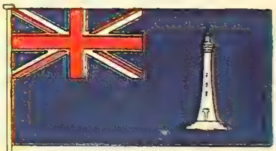
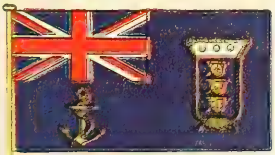
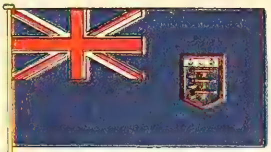

NORTHERN LIGHTS
VESSELS & LIGHT HOUSES
852


NAVY DEPT ORDNANCE
853


WAR DEPT. ORDNANCE
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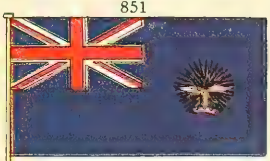
WAR OFFICE ENGINEERS
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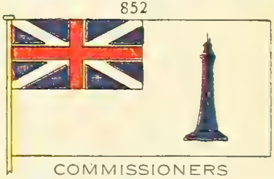
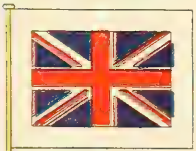
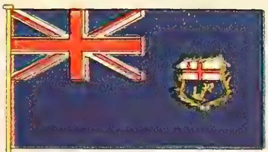
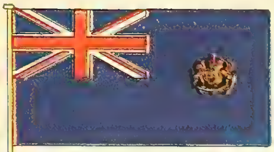
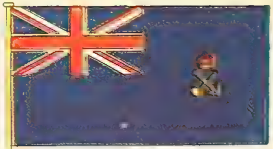

COMMISSIONERS
NORTHERN LIGHTHOUSES
856


PILOT JACK
857


858 LLOYD'S SIGNAL
STATIONS AND BOATS


CONSULAR AFLOAT
859


PACIFIC CABLE BOARD
860

patron saint of Mexico, and was flown in triumph for a time; but disaster overtook him and, with several of his generals, he was shot to death at Chihuahua in 1811. Two subsequent revolutions were also led by priests, *Padres* Morelos and Mier, and they, too, met Hidalgo's fate. They died upon the threshold of success, however, for Mexican independence of Spain was accomplished in 1821. The banner of Hidalgo is preserved in the National Museum in Mexico City.

435. TREATY OF TORDESILLAS.—These flags appearing on maps of the sixteenth century indicate the division of territory for exploration and conquest by Spain and Portugal effected by the Treaty of Tordesillas in 1494. Pope Nicholas V had given the Portuguese exclusive right to the "road to the Indies" in 1454, but he had in mind only the coast of Africa. Complicating the situation came the discovery of land in the west by Columbus, who believed that he had found the eastern shores of Asia. Pope Alexander VI, a Spaniard, was appealed to and he drew a line north to south a hundred leagues west of the Azores, giving the Spaniards the right to all that lay beyond. The Portuguese protested and the diplomats met at Tordesillas, Spain, with the result that the line was shifted 270 leagues farther west, approximating the 50th meridian of longitude west of Greenwich. This line strikes South America at the mouth of the Amazon, and the Spaniards therefore laid claim to the greater part of the continent and sought to exclude all other nations. This probably explains why Portugal secured only Brazil from all this vast domain.

436. ORDER OF CHRIST.—This flag is to be found on old maps of Brazil, where it indicates the control of territory by the members of the Brazilian section of this ancient order, which was instituted by Denys, King of Portugal, in 1231, to expel the Moors from Betica, adjoining Portugal. According to eighteenth century historians, the order "added many gallant Countries in Asia, Africk, and Brazil, to the domains of Portugal, and so improved their own Estates, that all the Isles in the Atlantick do belong to them; besides the Rents of the Mine of St. George in Guinea, amounting to 100,000 Ducats of yearly Income."

437. BRAZIL EMPIRE.—Driven from their kingdom by the invading armies of Napoleon, the royal family of Portugal in 1808 took refuge in Brazil, and for the first time in the history of the world a colony became the seat of government of its mother country. The prince regent, coming to the throne as Dom John VI, raised this standard of empire. In 1889 the colonists threw off the imperial yoke and established a republic, retaining in their national ensign (see 458) some of the characteristic features of the empire flag—the yellow diamond and the green field. The shield and imperial crown of the old flag, however, were replaced by the blue globe and the republican motto, "Ordem e Progresso."

438. SPANISH FLAG IN MEXICO.—The old flag from which this illustration has been made was carried by Spanish troops in the war of Mexican independence and it now reposes, among other relics of that struggle, in the museum at Mexico City. Its peculiar design is an adaptation of the raguled cross of the Spanish Bourbons, which may also be seen in the earlier flags of Ostend and Biscay (1143 and 1146), but with an added feature of crown-crested coats-of-arms on the ends of the cross.

439. MEXICO FLAG.—Migrating Aztecs, successors to the Toltecs in Mexico, in 1325 came to the shores of a lake in the valley of Mexico, or Anahuac, and there, as had been foretold by their oracle, "they beheld, perched on the stem of a prickly pear, which shot out from the crevices of a rock that was washed by the waves, a royal eagle of extraordinary size and beauty, with a serpent in his talons and his broad wings open to the sun." This determined the location of Tenochtitlan, now the City of Mexico. From this legend was devised the coat-of-arms which appears in the center of this flag, adopted when Mexico became independent, in 1821 (see new coat-of-arms and Mexican flags 489-492-493).

440. ALAMO FLAG.—This was the flag that floated in 1836 over the historic mission fortress, the Alamo, at San Antonio, when Texas was fighting for her independence. For twelve days the garrison of 178 Americans held out under the heavy bombardment of a force of 4,000 Mexicans. On the 6th of March the garrison was so weakened that the Mexicans were able to make assaults. Twice beaten back, the invaders were successful at last only through sheer weight of numbers. They gained an entrance to find but five of the brave defenders alive. These Santa Anna ordered bayoneted in cold blood. The war cry, "Remember the Alamo," echoed over many a battlefield, leading the Texans to ultimate victory. The date indicated the adherence to the constitution of 1824, and for this reason the numbers were used in place of the eagle, serpent, and cactus of the Mexican national flag.

441. TEXAS FLAG (NAVAL).—When Texas seceded from Mexico and became an independent republic, the first flag that seems to have been adopted was the naval flag, with its single star and thirteen stripes, the latter evidently borrowed from her neighbor to the north, the United States. The date given for this is April 9, 1836, antedating by several months the adoption of the first national standard of Texas, the design of which was "an azure ground with a large golden star central."

As to the origin of the lone star there are several legends. One gives the honor to Henry Smith, head of the Provisional Government, who is said to have sealed his State papers with the impression of a brass button on his coat, which had in relief a single star surrounded by an oak wreath. Another story gives the credit to a Mrs. Venson, who presented a flag with that device to a Texas regiment in 1836 (see State flag 328).

442-443. NEW GRANADA (COLOMBIA).—These were the flags of New Granada, the confederation of South American States now mainly embraced in the Republic of Colombia. In 1863 these States effected a closer union and changed their flag from three broad vertical stripes of yellow, blue, and red to the present Colombian flags (shown in 462-463). The old and new ensigns (442 and 462) are much alike except for the change in stripes, for they both have the coat-of-arms and the same colors. The eight-pointed star is on both merchant flags (443 and 463), but on the latter it is placed on an oval shield.

444. ECUADOR.—This flag of Ecuador when it was a part of the Republic of Colombia had as its coat-of-arms a design which was very similar to that used at present (see 480). The circle of seven stars in the upper part of the blue stripe represented the seven provinces of the republic.

445. SOUTH PERU.—The flag of this country was in existence but a short time, for the Peruvian - Bolivian Confederation, to which South Peru belonged, only endured about two years. In the process of evolution which brought about the present South American nations, stirring events occurred with great rapidity and States formed by political factions were dissolved almost overnight. This particular confederation was inaugurated May 1, 1837, and consisted of three States—North Peru, South Peru, and Bolivia—with a president for each and with General Santa Cruz as the supreme director, or dictator, of the whole. It was dissolved following severe fighting and the overthrow of the dictator.

446. GUATEMALA.—Conquered in 1525 by the Spaniards under Don Pedro de Alvarado, who became famous as Cortes' chief lieutenant in the conquest of Mexico and was dispatched by him to effect the conquest of the lands to the south, Guatemala continued under Spanish rule until 1821, when independence was attained. The Guatemala of those days consisted of the whole of Central America, and it was not until 1839 that it broke up under civil wars into the five republics of Guatemala, Honduras, San Salvador, Nicaragua, and Costa Rica. The flag shown in the illustration was the standard adopted May 31, 1858, which preceded the present ensign (see 482).

447 - 448 - 449. ENTRE RIOS, CORRIENTES, SANTA FE.—These were the flags of the Spanish settlements established in what is now Argentina. In the days of the viceroys they were under the control of a government located at Buenos Aires, which in turn was under the authority of the vice-royalty of Peru. Later Buenos Aires became the seat of its own viceroy, having authority over the Argentine Confederation, composed of these three States and the territory now occupied by Uruguay, Paraguay, and Bolivia. Entre Rios, Corrientes, and Santa Fe are still in existence, their flags today having the same relative importance of our own State flags. The golden sun in the center of the Entre Rios flag is still used in the same position on the ensign of modern Argentina (see 451).

THE FLAGS OF PAN-AMERICA

450. The flag of the Pan-American Union is a pennant adopted in 1907 and embodies all of the colors of the twenty-one republics of the Western Hemisphere.

451. The national banner of the Argentine Republic was devised in 1812. The Congress of Tucuman formally recognized it as the standard of the new Argentine Republic, then officially designated "The United Provinces of the Rio de La Plata." The Argentine banner is something more than merely the national flag of that Republic. It is associated in a large measure with the glories of Latin America, for, under the leadership of General de San Martin (see also 431) and General Belgrano, it helped to free Bolivia, Chile, Peru, and Ecuador. This flag has three stripes, sky-blue at the top and bottom and white in the middle. In the center of the field is a golden representation of the sun.

452. The merchant flag of Argentina, known as the "Bandera Menor," or flag of peace, is exactly like the national ensign, except that the blazing sun is omitted.

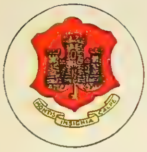
453. The presidential flag of the Argentine Republic consists of a banner upon which the national coat-of-arms is emblazoned. The essential principle of the coat-of-arms is that of an ellipse divided by the horizontal diameter, the field of the upper half being sky-blue and that of the lower half white. In the center of the upper section is a carmine liberty cap, supported by a vertical golden staff, held upright by two clasped hands. Around the ellipse is a border consisting of a wreath of two intertwined laurel branches. At the apex there is a representation of a golden sun.

454. After Bolivia was liberated by the sword of Gen. Simon Bolivar (see also 433), a national flag and coat-of-arms were adopted. The national ensign consists of three stripes—red at the top, gold in the middle, and green at the bottom. The red denotes the animal kingdom, the gold the mineral kingdom, and the green the vegetable kingdom. In the center of the field is placed the national coat-of-arms.

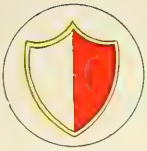
455. The merchant banner of Bolivia is a duplicate of the national ensign, with the coat-of-arms omitted.

456. Bolivia's coat-of-arms is elliptical in form. In the center appears the mountain crest of Potosi, celebrated for its traditional mineral wealth; beneath this are an alpaca, a sheaf of wheat, and a breadfruit tree. In the upper part is a rising sun with light cloud effect. At the apex is the inscription, "Bolivia." On each side of the oval are three Bolivian banners, a cannon, two rifles with fixed bayonets pointing upward at an angle; on the right is an Inca battle-axe and on the left a liberty cap; above all, as a crest, is the condor of the Andes between two branches of laurel and olive.

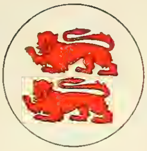
457. The flag of the Argentine Admiral ashore is blue, with three stars next to and parallel with the staff, and an anchor in the center of the field.



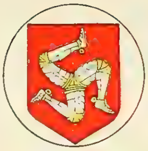
GIBRALTAR
861



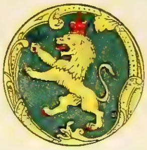
MALTA
862



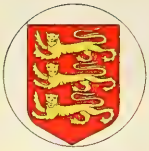
CYPRUS H.COM.
863



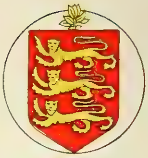
ISLE OF MAN
864



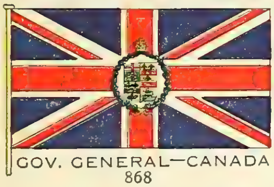
ALDERNEY
865



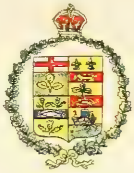
JERSEY
866



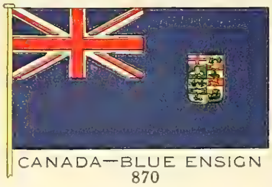
GUERNSEY
867



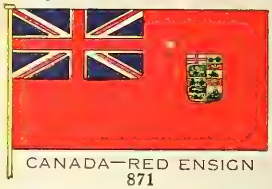
GOV. GENERAL—CANADA
868



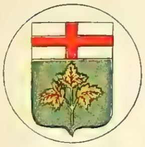
CANADA—BADGE
869



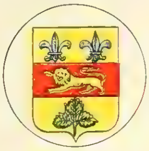
CANADA—BLUE ENSIGN
870



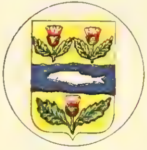
CANADA—RED ENSIGN
871



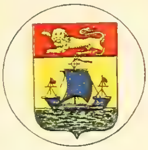
ONTARIO
872



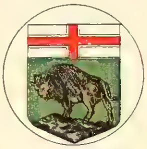
QUEBEC
873



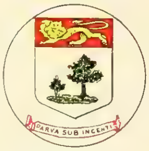
NOVA SCOTIA
874



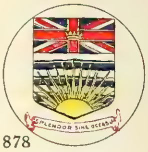
875 NEW
BRUNSWICK



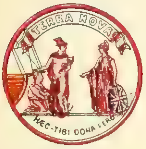
MANITOBA
876



877 PRINCE
EDWARD I.



878
BRITISH
COLUMBIA



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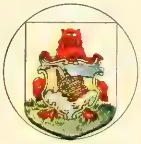

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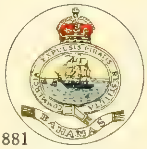

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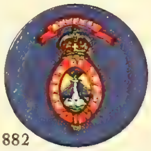
ISLANDS



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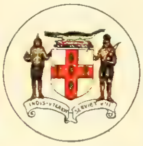
BAHAMA LIGHTS



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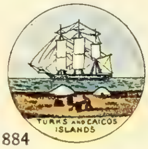

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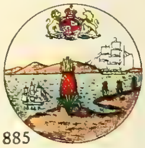
TURKS AND
CAICOS ISLES



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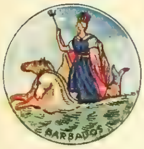

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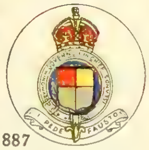

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WINDWARD
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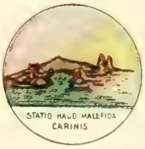

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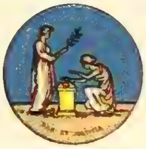

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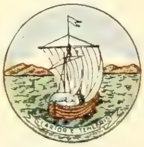

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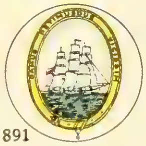

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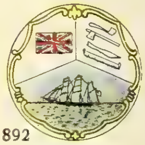

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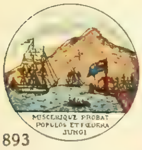
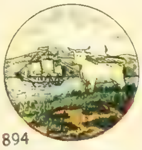

MISCERIQUE PROBAT POPULOS ET FŒDERA JUNGI

893
TRINIDAD
& TOBAGO



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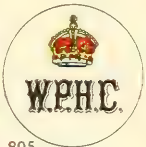
FALKLAND
ISLES



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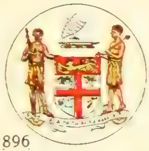
COMMISSIONER
WESTERN PACIFIC



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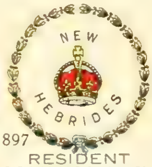
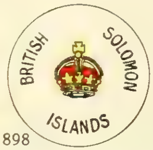
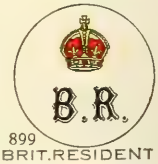
FIJI



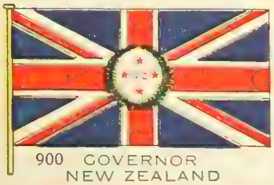
897
RESIDENT
COMMISSIONER
NEW HEBRIDES



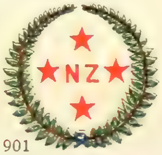
898
BRIT.SOLOMON
I.—PROTECT.



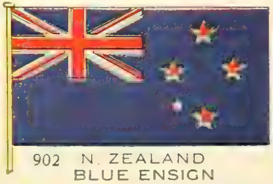
899
BRIT.RESIDENT
GILBERT AND
ELLICE ISLES



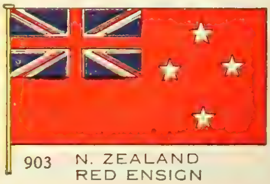
900 GOVERNOR
NEW ZEALAND



901
NEW ZEALAND BADGE



902 N. ZEALAND
BLUE ENSIGN



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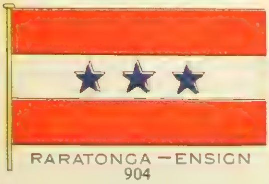
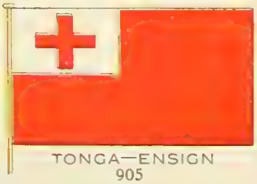
RED ENSIGN



RARATONGA—ENSIGN
904



TONGA—ENSIGN
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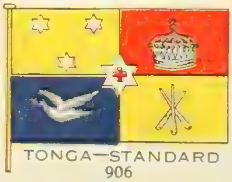
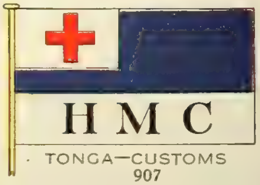
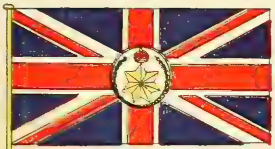
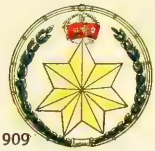


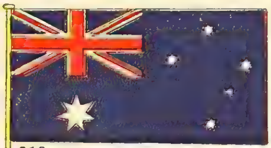
TONGA—STANDARD
906



TONGA—CUSTOMS
907


908 GOV GENERAL AUSTRALIA


909 AUSTRALIA—BADGE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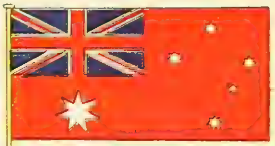
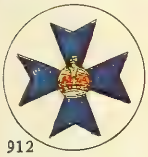
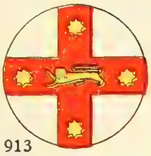
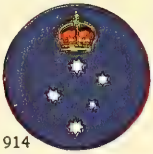
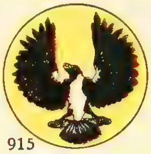
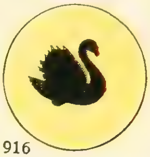

911 AUSTRALIA RED ENSIGN

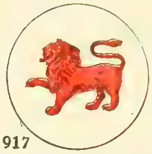

912 QUEENSLAND

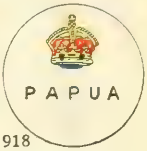

913 NEW SOUTH WALES


914 VICTORIA

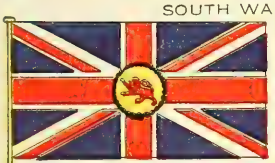

915 SOUTH AUSTRALIA

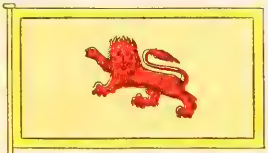

916 WESTERN AUSTRALIA

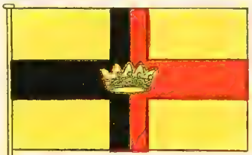

917 TASMANIA

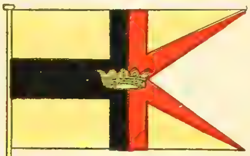


918 TERRITORY PAPUA


NORTH BORNEO CO. 919


GOVERNOR OF SABAH 920


SARAWAK 921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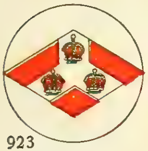
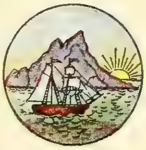

923 STRAITS SETTLEMENTS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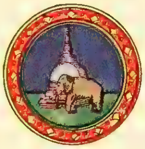
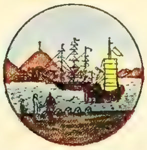
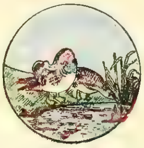
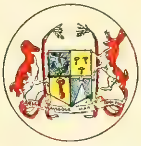
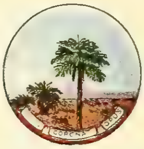

CEYLON 925


HONG KONG 926


WEIHAIWEI 927


MAURITIUS 928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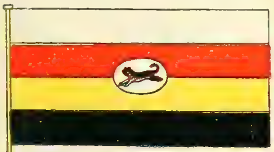
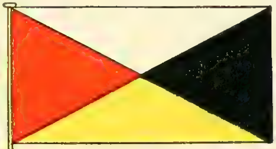
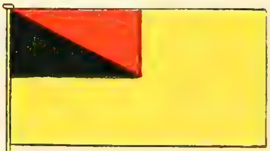

930 ENS FEDERATED MALAY STATES


JACK MALAY STATES 931

ENSIGN PAHANG 932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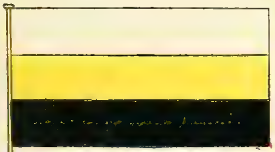
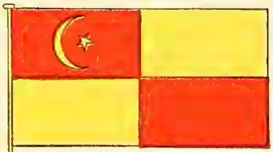
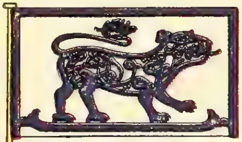
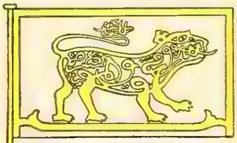
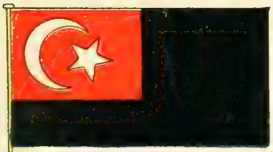
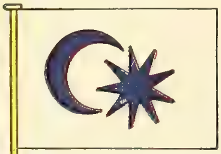

934 ENSIGN—PERAK

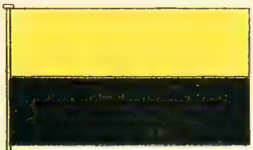

ENSIGN—SELANGOR 935

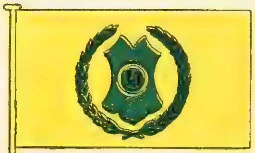

936 KELANTAN

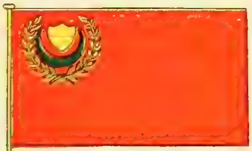

937 KELANTAN

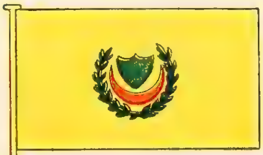

938 JOHORE

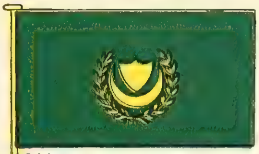

SULTAN JOHORE 939

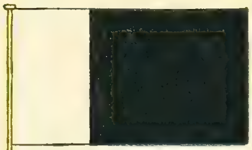

940 PERLIS


941 RAJAH PERLIS


942 KEDAH


943 SULTAN KEDAH


944 REGENT KEDAH


945 TRENGGANU

458. The present flag of Brazil was largely inherited from the extinct empire. It consists of a green field, twice as long as wide, on which a diamond-shaped figure is inscribed in yellow. The green represents the vegetable kingdom and the yellow the mineral. The blue circle within the yellow diamond, studded with stars, is a representation of the heavens at Rio, when the constellation of the Southern Cross is at the meridian. The words stamped in the course of the terrestrial orbit mean "Order and Progress."

459. The President's flag of Brazil consists of a blue field, with the national coat-of-arms in the center. The large five-pointed star typifying the unity and territorial integrity of the nation is bisected in such a manner that one of the halves of each point is green and the other yellow, symbolizing respectively the vegetable and mineral wealth of the country. The blue circular band inscribed within the star contains twenty-one small silver stars, reminders of the twenty States of the Brazilian Union and the neutral city of Rio de Janeiro. The five large stars in the center of the coat-of-arms represent the constellation of the Southern Cross. The entire shield is upheld by a vertical sword, in the center of whose hilt on a red field is set a star. The shield is encircled by two branches of coffee and tobacco plants as emblems of the country's agricultural wealth, while the straight golden rays, radiating in all directions outward and upward beyond the shield, denote the rising of the sun—that is, the glorious future and destiny of Brazil. Inscribed below are the words "Estados Unidos do Brazil" (the United States of Brazil) and the date of the establishment of the republic, November 15, 1889.

460. October 18, 1917, will be the centennial of the Chilian flag. October 18, 1817, Gen. Bernardo O'Higgins, the supreme dictator of Chile, decreed its adoption. It consists of a field, the lower half of which is red and the upper white, with a blue canton in the upper left-hand corner occupied by a large five-pointed silver star.

461. The banner of the President of Chile consists of the national ensign with the coat-of-arms of the country thereon. The condor and guemul supporting the shield represent the strongest and most majestic bird of the Chilian Andes and the most peculiarly Chilian quadruped. The tuft of three feathers which crowns the shield was formerly used as a special mark of distinction on the hat of the President of the Republic, as a representation of the supreme executive dignity of the nation. In the old days of wooden ships the sailor who first succeeded in boarding a warship of the enemy and came out of the action alive was rewarded by being crowned with a naval diadem of gold. Copies of this crown appear on the head of the condor and the guemul. The inscription on the coat-of-arms means "By Right or Might."

462. Colombia inherited its flag and coat-of-arms from the Republic of New Granada, of which it is the successor. Following the death of Simon Bolivar, the Colombian Union, set up by him, which consisted of the present republics of Venezuela, Ecuador, Colombia, and Panama, ceased to exist, and New Granada, one of the succeeding States, adopted what is now the coat-of-arms and the flag of Colombia. The upper half of this flag is yellow, the lower half divided between light blue and bright red, the red strip being at the bottom. On the ensign is embroidered the national coat-of-arms.

463. The merchant flag of Colombia is a replica of the national ensign, except that instead of the coat-of-arms there appears a bright red oval surrounding a small field of blue, upon which is imposed an eight-pointed star.

464. Colombia's coat-of-arms consists of a shield divided into three horizontal sections, the upper section displaying upon a field of blue a golden pomegranate tinged with red, with the leaves and stem of the same color. On each side of the pomegranate is an inclined golden cornucopia, the one on the right pouring out toward the center gold coins and the one on the left overflowing with the fruits of the tropics. The middle section of the shield is platinum colored and bears a red liberty cap supported upon a lance. The lower section represents a silvery-waved ocean, divided by the Isthmus of Panama, with full-rigged ship in both the Pacific Ocean and Caribbean Sea. The shield is supported by four national banners. The crest shows the condor of the Andes with extended wings, from its beak hanging a laurel wreath to which is attached a streamer bearing the inscription, in Latin, in black letters, "Liberty and Order."

465. For a description of the coat-of-arms of Chile, see 461.

466. Costa Rica's flag is made up of five stripes, blue at the top and bottom, red in the center, and white between the red and blue. The red stripe is double width. The national coat-of-arms, in diameter equal to the red stripe, is placed in the center of the field.

467. The merchant flag of Costa Rica is a duplicate of the ensign except that the coat-of-arms is left off.

468. As revised by the decree of 1906, the coat-of-arms of Costa Rica represents three volcanoes and an extensive valley between two oceans, with a merchant ship sailing on each of them. On the extreme left of the line that marks the horizon is a rising sun. On the upper part of the field are two myrtle palms, half covered and joined by a white ribbon which contains the following inscription in gold letters: "Republica de Costa Rica." The field between the peaks of the volcanoes and the myrtle palms contains five stars of equal size arranged in an arc. The crest of the shield is a blue ribbon interlaced in the shape of a crown and bearing in silver letters the inscription, "America Central."

469. The quarantine flag of Cuba is yellow, with a black anchor and Greek cross superimposed upon the center.

470. The Cuban patriotically calls his national flag "La Estrella Solitaria," or "The Lone Star." This banner became the official emblem of Cuba on the 20th of May, 1902. It consists of a field with three blue and two white horizontal stripes, with a solitary star set in the center of a red equilateral triangle imposed upon the staff end of the field. The "lone star" is taken from the banner of the old Republic of Texas, the equilateral triangle from Masonic symbolism.

471. The flag of the Secretary of the Navy of Cuba has a blue ground and an anchor in white in the center.

472. The national coat-of-arms of Cuba was adopted during the revolutionary period of the republic's history. It has the form of an ogive shield and is divided into three sections, two of which are in the lower two-thirds of the shield. In the left half of the lower two-thirds are three blue and two white stripes of the Cuban flag. In the right half is depicted a characteristic landscape of rural Cuba. The upper third of the shield shows a sea with two rocky capes, between which is a golden key closing the strait thus formed, signifying that Cuba, with her fine geographical position, is the key to the Gulf of Mexico. The golden disk of the sun, rising out of the waves of the sea and shedding its rays in all directions, represents Cuba, redeemed by the blood of martyrs and heroes, with a bright and glorious future before her. The shield is supported by fasces surmounted by a crimson liberty cap on which appears a five-pointed star. Two intertwined branches, the one of evergreen oak and the other of laurel, denoting respectively enduring strength and vitality and victory, encircle the right and left sides of the shield.

473. The flag of the Captain of the fleet of Cuba is a blue triangular pennant with an anchor in white imposed on it.

474. When the people of the eastern part of the island of Haiti threw off the yoke of the Haitian Government and established the Dominican Republic, they designed a flag which consists of a field crossed in both directions with white. The upper quarter next the flagstaff and the lower quarter at the free end are blue, while the lower quarter next the staff and the upper quarter at the free end are red. In the national ensign the coat-of-arms of the Dominican Republic appears on the white cross.

475. The merchant flag of the Dominican Republic is like the national ensign except that the coat-of-arms is omitted.

476. On the shield of the coat-of-arms of the Dominican Republic appear the Cross, the Bible, and the colors of the country. Below floats a streamer with the inscription, "Dios, Patria, Libertad"—"God, Country, Liberty." These words were the secret password of "La Trinitaria," the patriotic society which inaugurated the revolution that resulted in the freedom of the republic.

477. The admiral's flag of the Dominican Republic is like the national ensign (474) except that the outward third of the fly is swallow-tailed.

478. Under a legislative decree entered in 1900 the national flag of Ecuador is the old Venezuelan flag of 1811. The only difference between it and the Colombian flag (462) is that the Ecuadorean coat-of-arms appears instead of the Colombian. The law provides that the flag raised over the national buildings, warships, fortresses, and those hoisted by the diplomatic and consular agents of the republic in foreign countries, shall bear the coat-of-arms of the nation in the center on the yellow and blue stripes.

479. The Ecuadorean law of 1900 provides that the flag used by individuals and merchant shipping shall be the national colors without any insignia. The flags flown over municipal buildings have, under that law, a circle of white stars on the blue stripe, of a number equal to that of the provinces which compose the republic.

480. The coat-of-arms of Ecuador consists of an oval shield, supported by the colors of the republic, in the upper part of which is a representation of the sun, with that part of the zodiac in which are found the signs corresponding to the months of March, April, May, and June. At the left of the shield is a representation of Mount Chimborazo, washed by a river on which floats a steamship. The shield rests on consular fasces, the emblem of republican dignity, and is crowned by a condor with outstretched wings.

481. The commanding officer's pennant of the Dominican Republic is triangular, with the representation of the national colors still preserved.

482. The present national flag of Guatemala is one which was provided under a decree of 1871, restoring the colors fixed by the National Assembly in 1823. It consists of three vertical stripes of equal dimensions, blue and white, the latter in the center. The national ensign bears the coat-of-arms of the country on the white stripe.

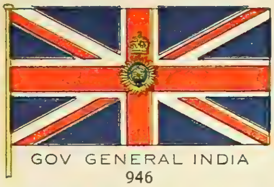
483. The merchant flag of Guatemala is like the national ensign except that the coat-of-arms is omitted.

484. The National Congress of Honduras in 1866 made the flag of the republic that of the old Central American Federation—two blue stripes and one white stripe between, placed horizontally, and in addition a group of five stars, five-pointed, in the center of the white field. In the national ensign these stars are replaced by the coat-of-arms and regrouped so as to form a curved row of five stars below the escutcheon.

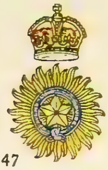
485. The Honduras merchant flag, which the law says is the national flag, as distinguished from the war flag, has the five stars so grouped in the center of the white stripe as to form an "X."

486. The coat-of-arms of the Republic of Haiti was established under the constitution of 1843. It consists of a palm surmounted by the cap of Liberty and ornamented with a trophy of arms, with the motto, "L'Union fait la force" (In union there is strength). When President Soulouque established himself as Emperor Faustin I, he modified the coat-of-arms, but it was restored in 1861 and has since remained unchanged.

487. Guatemala's coat-of-arms dates from 1871. It consists of a shield with two rifles and two swords of gold entwined by laurel branches. On the scroll are the words "Libertad, 15 de Setiembre de 1821" (Liberty, 15th of September, 1821). Above the scroll is a quetzal, the national bird of Guatemala, corresponding to the American eagle. It is said that this bird never survives captivity, even when



GOV GENERAL INDIA
946



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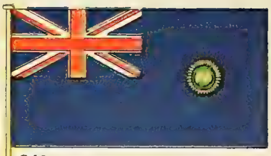
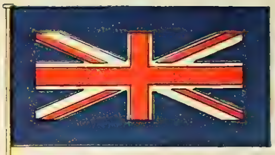
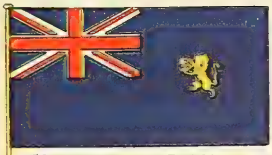
INDIA—BADGE



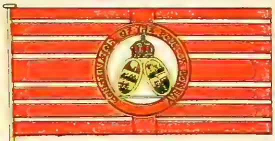
948 INDIAN MARINE



JACK INDIAN MARINE
949



950 LOCAL INDIAN
MARITIME GOVTS



951 CONSERVATORS
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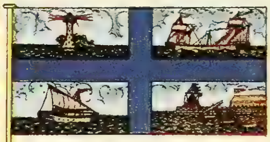

TRUSTEES BOMBAY
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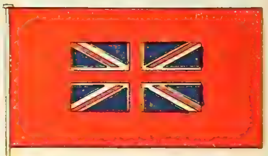
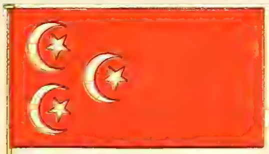


WITU—PROTECTORATE
953



EGYPT
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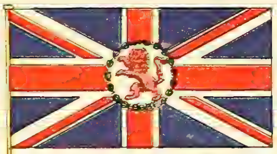
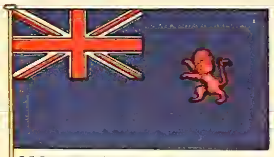
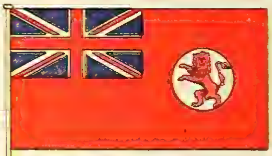


BRITISH EAST AFRICA
955



956 ARMED VESSELS
B. E. A. CO.



MERCHANT VESSELS
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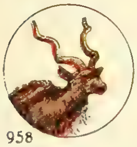

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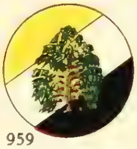
SOMALILAND
PROTECTORATE



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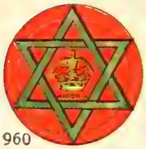
PROTECTORATE



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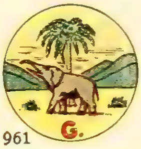

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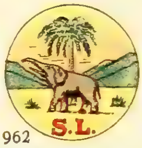

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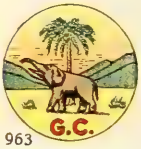

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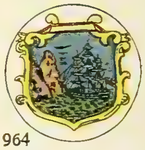
GOLD COAST



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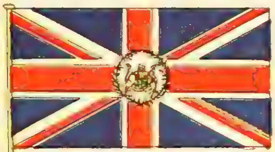
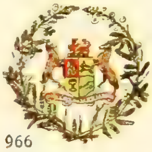


GOVERNOR GENERAL
UNION SOUTH AFRICA
965



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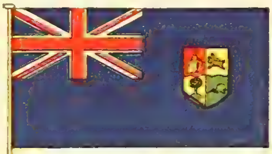
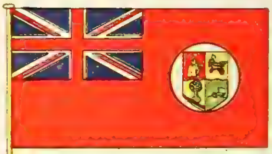
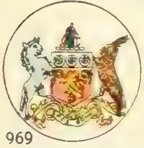
UNION SOUTH AFRICA
BADGE



967 BLUE ENSIGN
UNION SOUTH AFRICA



968 RED ENSIGN
UNION SOUTH AFRICA



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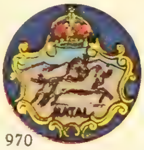
CAPE GOOD HOPE



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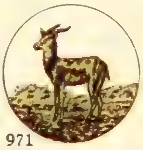

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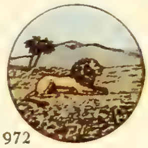
ORANGE RIVER



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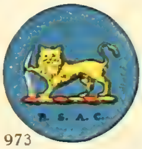

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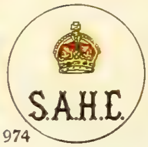

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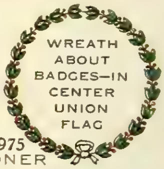
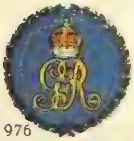
HIGH COMMISSIONER
SOUTH AFRICA



WREATH
ABOUT
BADGES—IN
CENTER
UNION
FLAG

975



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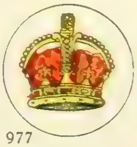
MILITARY
OFFICERS
AFLOAT



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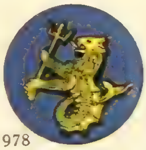
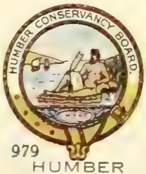
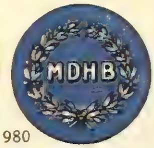
CONSULAR
(SHORE)



978
PORT LONDON
AUTHORITY


HUMBER CONSERVANCY BOARD.

979
HUMBER
CONSERVANCY



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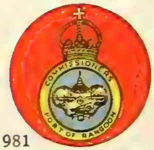
MERSEY DOCKS
& HARBOR BD



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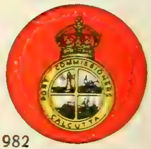
COMM'S. PORT
RANGOON



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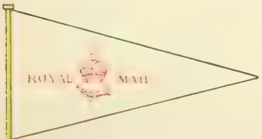
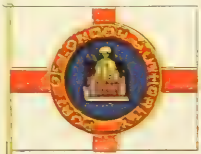
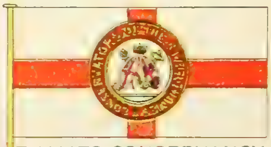
COMM'S. PORT
CALCUTTA



ROYAL MAIL VESSELS
983



PORT LONDON
AUTHORITY
984



THAMES CONSERVANCY
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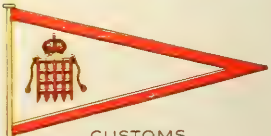
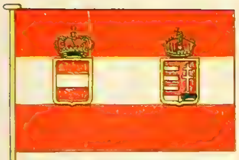
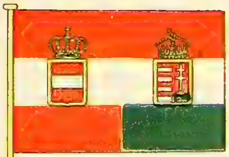


CUSTOMS
COMMISSIONER
986


AUSTRIA HUNGARY
987 ENSIGN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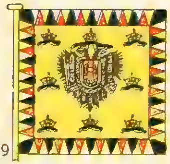
988 MERCHANT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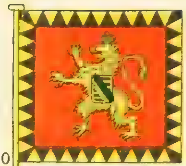
AUSTRIA HUNGARY
IMPERIAL STANDARD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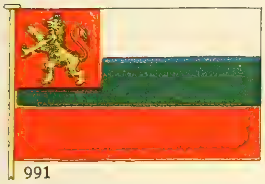
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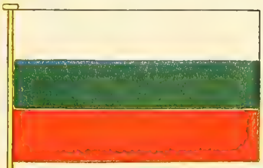
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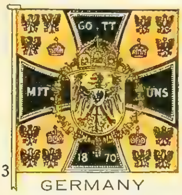
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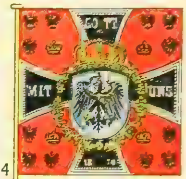
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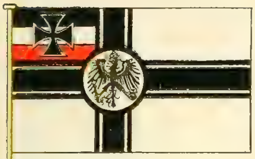
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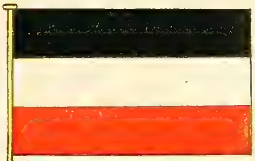
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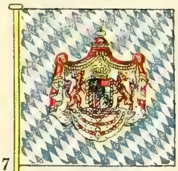
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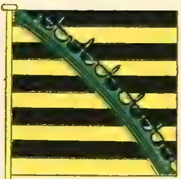
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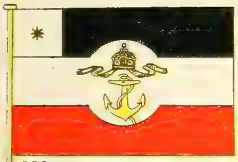
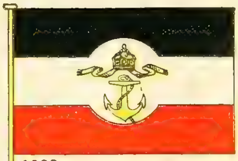
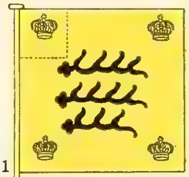

999 GERMANY
FLAGS MARITIME STATES
*BADGES BELOW


1000 GERMANY
IMPERIAL MARINE
IN PLACE BADGE ABOVE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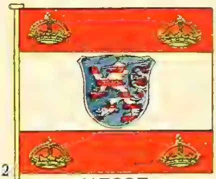
WURTTEMBURG
KING'S STANDARD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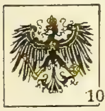
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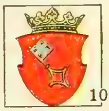
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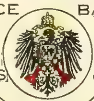
FOREIGN BUILDINGS
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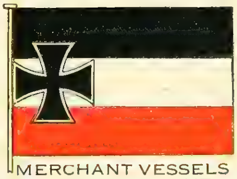
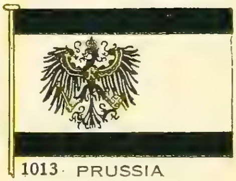
OFFICE & VESSELS


MERCHANT VESSELS
1012 NAVAL RESERVE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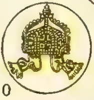
LANDESFLAG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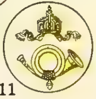
OTHER DEPTS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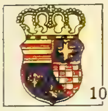
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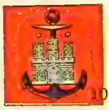
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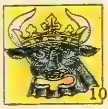
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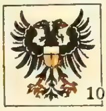
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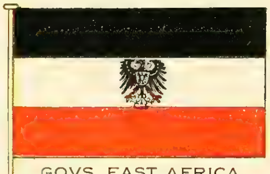
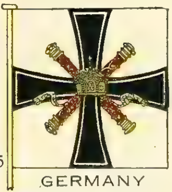

GOVS. EAST AFRICA
1014 & KIAO-CHAU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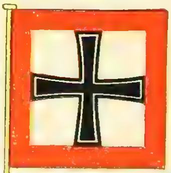
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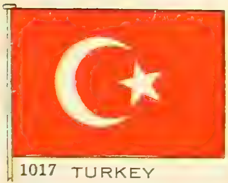
INSPECTOR GENL. NAVY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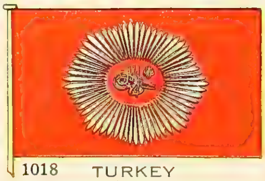
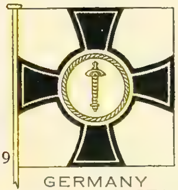
ENSIGN—MERCHANT


1018 TURKEY
IMPERIAL STANDARD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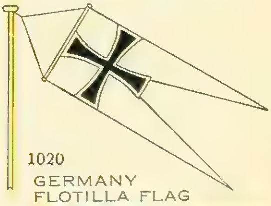
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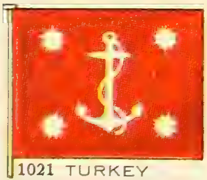
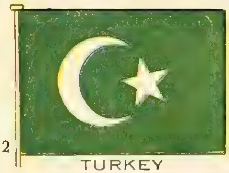

1021 TURKEY
IMPERIAL STANDARD AFLOAT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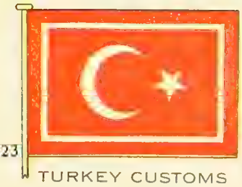
TURKEY
RELIGIOUS FLAG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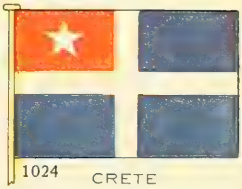
TURKEY CUSTOMS


1024
CRETE

taken in early life. In the ancient days of the Indians none but the royal family could wear its beautiful feathers. The tail feathers of the male, which sometimes reach a length of three feet, are of a peacock green ranging to indigo, and contrast with the scarlet breast of this proud and unconquerable bird.

488. The coat-of-arms of Honduras is an elaborate affair, with a shield supported on the mountains of the republic, and surmounted by two horns of plenty, out of which all good things in tropical fruits and flowers are flowing. On the shield is a pyramid, with a blazing sun rising out of the green waters of the sea. Around the shield is an inscription which reads, "Republic of Honduras—Free, Sovereign, Independent—15 Sept., 1821."

489. MEXICO COAT-OF-ARMS. — The design for the coat-of-arms of Mexico has been changed very recently from that shown on the flag pictured in 439 to this arrangement, which shows a side view of the eagle. It is, of course, based upon the legend relating to the founding of Mexico City. It has the same fundamentals—the eagle, the serpent, the nopal cactus, and the branches of laurel and evergreen oak—but, in addition, has the words *"Estados-Unidos-Mexicanos"* (United States of Mexico) to round out the circle and further to identify the seal. The change was made in January, 1917, under the direction of President Carranza, the explanation given being that it conforms more closely to the ancient Aztec pictographs of the event.

490. The national flag of Haiti consists of a field, the upper part of which is blue and the lower red, with the coat-of-arms of the country in the center. The flag was adopted in 1843.

491. The merchant flag of Haiti is blue and red, exactly like the national ensign, except for the absence of the coat-of-arms.

492. Dating from 1823, the national flag of Mexico consists of three parallel, vertical bars, the one next the flagstaff being green, the middle one white, and the outer one red. The three guarantees of the republic, which date from that time, are symbolized in the flag. The green denotes independence, the white the purity of religion, and the red the union of the Spanish element with the Mexican nation. On the white bar is placed the national coat-of-arms (see also 439-489).

493. Mexico's merchant flag is exactly like the national ensign, except that the coat-of-arms is absent.

494. The ensign of Nicaragua consists of a field of three horizontal bars, the upper and lower blue and the middle one white, with the coat-of-arms of the country on the white bar. This flag dates from 1823, although in 1854 it was superseded by another banner, which, in its turn, gave place to the old one again. The coat-of-arms consists of a triangular shield (No. 498).

495. According to the law cited by the Pan-American Union respecting the merchant flag of Nicaragua, merchant vessels shall not bear the coat-of-arms on the flag.

496. The present escutcheon of the Republic of Panama is described in the Constitution. It rests upon a field of green, symbolical of vegetation. It is ogival in form and divided into three parts. The center of the shield shows the Isthmus with its two seas and the sky, wherein is depicted the moon rising over the waves, with the sun setting behind the mountains, thus marking the solemn hour of Panama's declaration of independence. The upper part is subdivided into two sections. In the right-hand section, on a silver field, appear a sword and gun, so placed as to suggest abandonment, signifying an eternal farewell to the civil wars that have heretofore been the cause of the country's ruin. In the section to the left, on a field of red, appear a spade and hoe, crossed, to symbolize labor. The lower part of the shield is also subdivided into two sections. The right-hand section shows, on a field of azure, a cornucopia, the emblem of plenty, and in the left-hand section, on a field of silver, is a winged wheel, symbolizing progress. Surmounting the shield and covering it with outstretched wings is poised an eagle, the emblem of sovereignty, its head turned to the left and holding in its beak a silver streamer with ends flying to right and left. On the streamer is the following motto: "Pro mundi beneficio" (For the benefit of the world). Above the eagle seven golden stars are grouped in the form of an arch, representing the provinces into which the republic is divided. As decorative accessories two national flags, gathered at the lower extremity of the staff, are stacked on either side of the shield.

497. The field of the flag of Panama is divided into four quarters. The upper quarter next to the flagstaff is white and the lower one farthest away from the staff is also white. The lower quarter next the flagstaff is blue and the upper quarter farthest away is red. In the upper white quarter appears a blue star and in the lower white quarter a red star. Both the flag and coat-of-arms of the republic are only provisional, the constitution authorizing a contest for the adoption of a permanent design.

498. The present escutcheon of Nicaragua was borrowed from the old "United Provinces of the Center of America," of which it was a member. On the base appears a range of volcanoes, located upon a strip of land washed by both oceans; surmounting these and in the upper part of the triangle appears a rainbow, below this a liberty cap radiating light. Around the escutcheon appears the legend in gold, "Republica de Nicaragua America Central."

499. The law prescribing the coat-of-arms of Peru says: "The coat-of-arms of the Peruvian Republic shall consist of a shield divided into three fields, to wit: one of sky blue, to the right, on which shall be a llama looking toward the left; another of white, to the left, with a cinchona tree; in the base a field of red with a cornucopia, from which flow coins of gold. These emblems symbolize the riches of Peru in the three natural kingdoms. The shield shall bear as a crest a civic crown (laurel wreath), and on either side a flag and a standard with the national colors."

500. Paraguay's coat-of-arms consists of palm and olive branches interlaced at the vertex with a circular space between; in the center of this space is the morning star, and in the outer border the inscription, "Republica de Paraguay."

501. The ensign of Paraguay is composed of three bars—the upper red, the middle white, the lower blue—running horizontally. In the center on the obverse side appears the national coat-of-arms. On the reverse side, also in the center, is the seal of the Hacienda (Treasury), a circle bearing the inscription, "Paz y Justicia" (Peace and Justice), in the center of which is depicted a lion in a vigilant attitude, defending the Phrygian cap—the symbol of liberty—above him on a pike.

502. The national standard and flag of Peru is composed of three vertical stripes, the end ones red and the middle one white. On the latter appears the coat-of-arms with its crest, and surrounded at its base by a laurel branch to the left and a palm to the right, both tied together at their lower ends. This flag was established by the Peruvian Congress which met in 1825 and has never been changed.

503. The merchant flag of Peru is the same as the national ensign, except that the coat-of-arms is omitted.

504. The merchant flag of Paraguay has the same colors as the national ensign, the coat-of-arms being omitted; in its place appears at the end of the white stripe next to the flagstaff the seal of the department having to do with merchant marine matters.

505. The flag of the admiral of the Paraguayan navy is a swallow-tailed banner in the national colors, with a yellow half moon on the end of the white bar nearest the swallow tail.

506. In 1912 the Congress of Salvador ordered a return to the original coat-of-arms and flag of Central America as they existed in the days of the "United Provinces of the Center of America." The flag consists of the familiar three horizontal bars, the upper and lower blue and the central one white, with the coat-of-arms of the country in the middle of the white bar. This is the flag for ports and vessels and for government envoys to foreign countries.

507. The merchant flag does not bear the coat-of-arms, but on the middle stripe is inscribed in silver letters, "Dios, Union y Libertad."

508. Uruguay has but one flag for its national banner and the emblem of its merchant marine. This consists of nine stripes, five white and four blue, white at the top and bottom. In the upper corner next to the staff is a white canton on which appears a blazing sun. This is known as "El Sol de Mayo" (The Sun of May), symbolizing the awakening of the colony into independent national life.

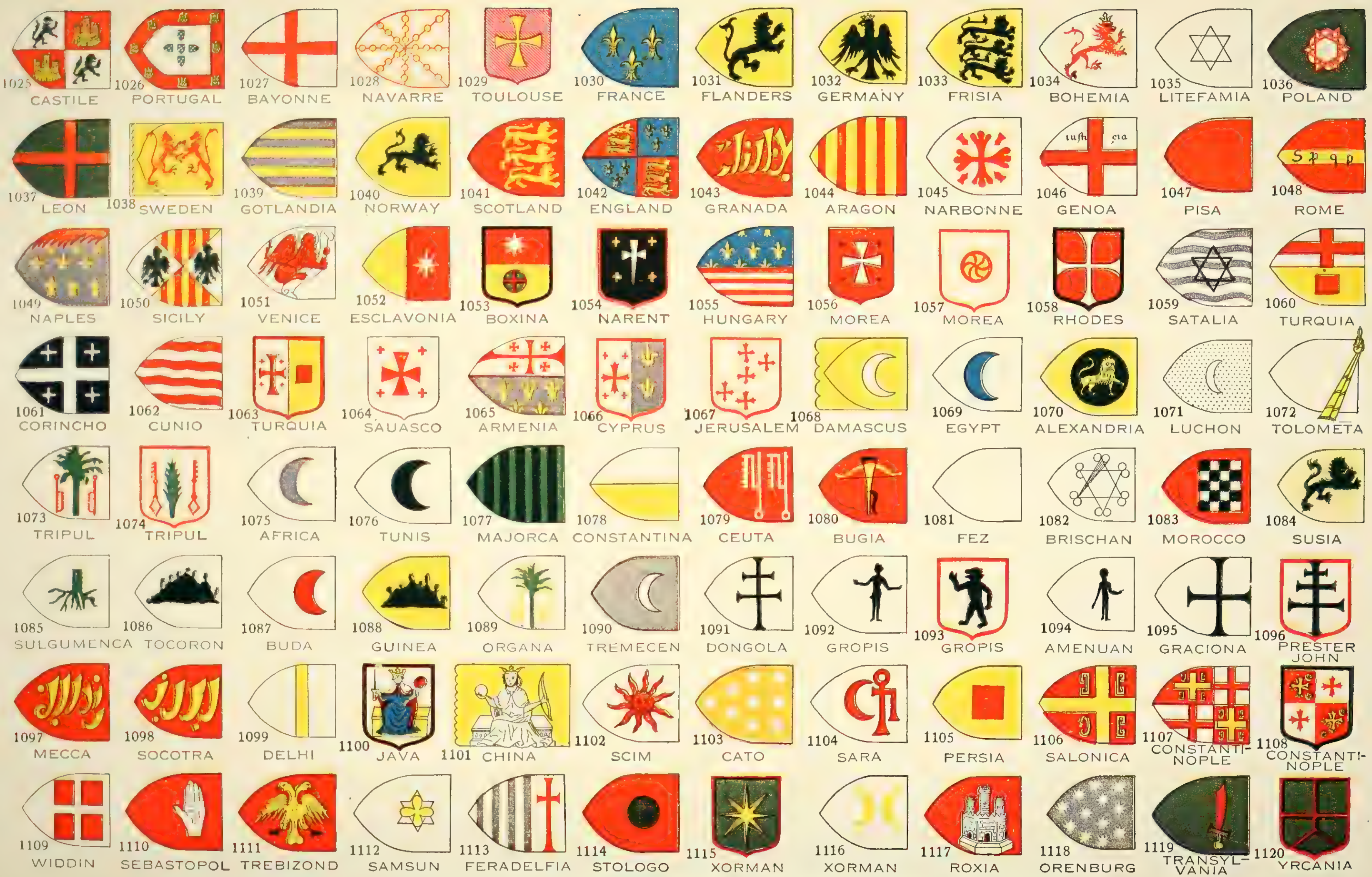
509. The escutcheon of Uruguay is an oval crowned with a sun and divided into four quarters. In the upper right-hand division is depicted, on a field of blue, a pair of scales, symbolizing equality and justice; in the upper left-hand division, on a field of silver, the Cerro of Montevideo, as a symbol of power; in the lower right-hand division, on a field of silver, a horse running loose, symbolizing liberty; and in the left-hand lower quarter, on a blue field, an ox, as a symbol of abundance. The field is inclosed within two branches of olive and laurel joined at the bottom by a bow of azure.

510. The law establishing the coat-of-arms of Salvador says: "The escutcheon of El Salvador shall be an equilateral triangle. At its base shall appear a cordillera of five volcanoes located on a strip of land appearing to be washed by both seas; in the upper part a rainbow curved above; beneath an arc, a liberty cap radiating light, and in the form of a semicircle an inscription, "15 de Setiembre 1821." Surrounding the triangle and in the form of a circle shall be inscribed in letters of gold, "Republica de El Salvador en la America Central," and at the base of the triangle, "Dios, Union y Libertad." The great seal of the nation, that of the Secretary of the National Assembly, and that of government representatives and tribunals of justice bear the same coat-of-arms.

511. The coat-of-arms of Venezuela was established under a decree of 1905. It consists of a shield divided into three parts, the one at the right yellow, with a sheaf of seven heads of wheat. The second section is red, bearing arms and two national flags bound together with a wreath of laurel. The third section occupies the entire lower portion of the shield, is blue, and bears an untamed white horse. The crest of the shield is an emblem of plenty, two cornucopias flowing with fruit. At the lower edge of the shield is a branch of laurel and palm tied together by a ribbon, bearing in gold letters the following inscription: "Independencia—Libertad—5 de Julio de 1811—24 de Marzo de 1854—Dios y Federacion" (Independence—Liberty—God and the Federation). July 5, 1811, was the date of the republic's declaration of independence, and March 24, 1854, the date of the abolition of slavery.

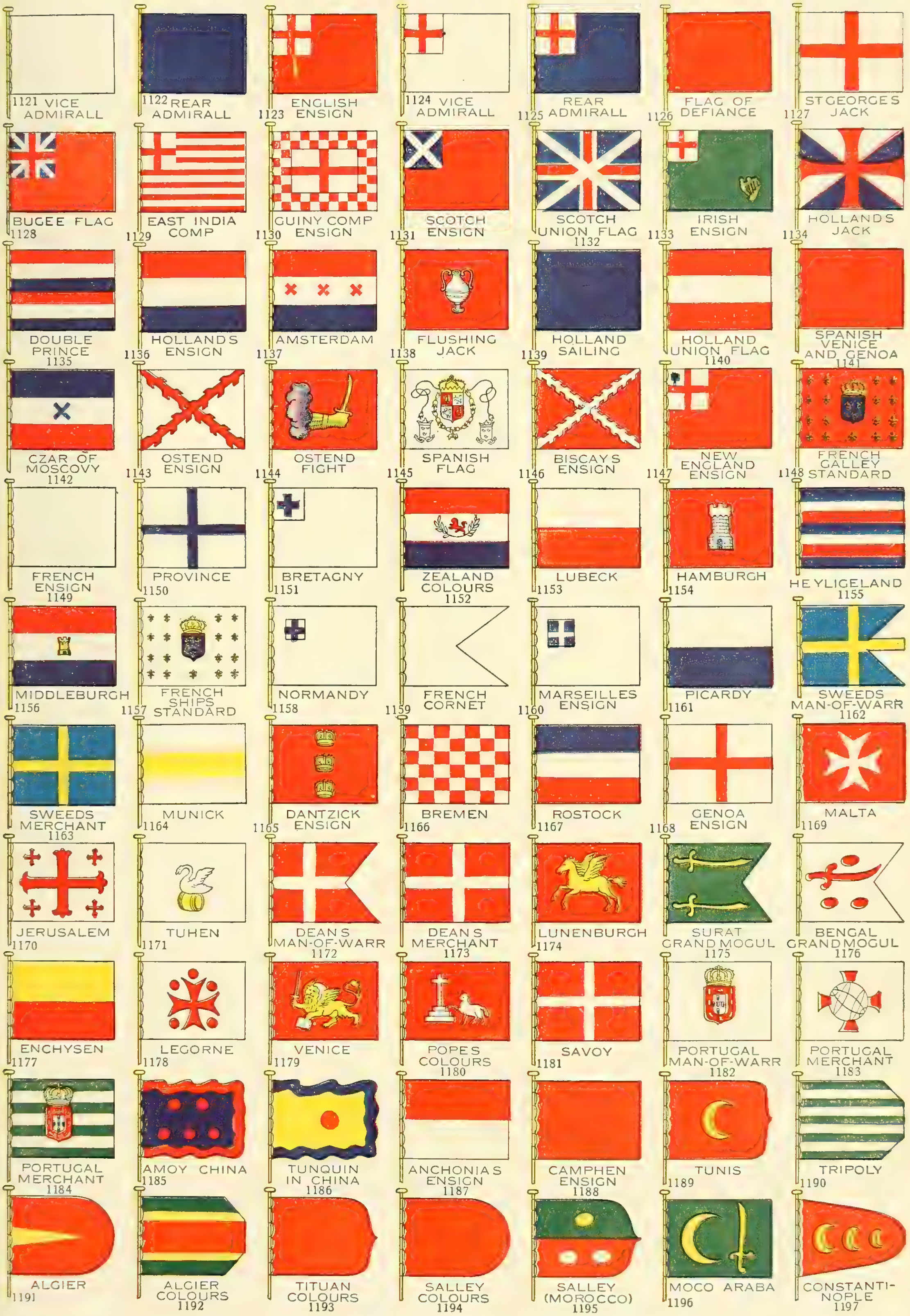
THE NAVAL FLAGS OF THE WORLD

514-727. These flags and pennants, showing all of the flags of command, commission pennants, jacks, and pilot flags of the navies of the world, are used in the same manner as the corresponding ones of the United States, and the reader is directed to descriptions 49, 50, 51, 53, 54, 58, and 64-68, inclusive, for information as to the time, occasion, and manner of their respective use.



1025 CASTILE
1026 PORTUGAL
1027 BAYONNE
1028 NAVARRE
1029 TOULOUSE
1030 FRANCE
1031 FLANDERS
1032 GERMANY
1033 FRISIA
1034 BOHEMIA
1035 LITEFAMIA
1036 POLAND
1037 LEON
1038 SWEDEN
1039 GOTLANDIA
1040 NORWAY
1041 SCOTLAND
1042 ENGLAND
1043 GRANADA
1044 ARAGON
1045 NARBONNE
1046 GENOA
1047 PISA
1048 ROME
1049 NAPLES
1050 SICILY
1051 VENICE
1052 ESCLAVONIA
1053 BOXINA
1054 NARENT
1055 HUNGARY
1056 MOREA
1057 MOREA
1058 RHODES
1059 SATALIA
1060 TURQUIA
1061 CORINCHO
1062 CUNIO
1063 TURQUIA
1064 SAUASCO
1065 ARMENIA
1066 CYPRUS
1067 JERUSALEM
1068 DAMASCUS
1069 EGYPT
1070 ALEXANDRIA
1071 LUCHON
1072 TOLOMETA
1073 TRIPUL
1074 TRIPUL
1075 AFRICA
1076 TUNIS
1077 MAJORCA
1078 CONSTANTINA
1079 CEUTA
1080 BUGIA
1081 FEZ
1082 BRISCHAN
1083 MOROCCO
1084 SUSIA
1085 SULGUMENCA
1086 TOCORON
1087 BUDA
1088 GUINEA
1089 ORGANA
1090 TREMECEN
1091 DONGOLA
1092 GROPIS
1093 GROPIS
1094 AMENUAN
1095 GRACIONA
1096 PRESTER JOHN
1097 MECCA
1098 SOCOTRA
1099 DELHI
1100 JAVA
1101 CHINA
1102 SCIM
1103 CATO
1104 SARA
1105 PERSIA
1106 SALONICA
1107 CONSTANTINOPLE
1108 CONSTANTINOPLE
1109 WIDDIN
1110 SEBASTOPOL
1111 TREBIZOND
1112 SAMSUN
1113 FERADELFIA
1114 STOLOGO
1115 XORMAN
1116 XORMAN
1117 ROXIA
1118 ORENBURG
1119 TRANSYLVANIA
1120 YRCANIA

THE FLAGS OF THE WORLD FIVE HUNDRED AND SEVENTY YEARS AGO. IN 1350



THE FLAGS OF THE WORLD TWO HUNDRED YEARS AGO: IN 1705

THE FLAGS OF EUROPE, ASIA, AND AFRICA

728. The flag of Abyssinia consists of three horizontal stripes, the uppermost green, the middle yellow, and the bottom red. This banner flies over that part of Africa which was known in Bible times as Ethiopia. It is the emblem of authority of a government which has been called a sort of feudal monarchy. The Emperor's title is "King of Kings." Certain parts of the country are ruled by princes, some of them appointed by the Emperor and others self-constituted. Some of these princes have retinues of supporters who are perpetual warriors and whose usefulness lasts as long as there are any insubordinate tribes to pacify. The Abyssinian army, numbering about 150,000, is largely composed of cavalry and is well adapted for swift movement, as it is not incumbered by any commissariat, its maintenance being obtained from the inhabitants of regions through which it passes.

729. The flag of Albania has a red field, upon which is imposed a black double-headed spread eagle. This flag dates from 1913, in which year a council of six members, chosen by the powers of Europe, set up the principality as an offset to Serbia's desire to possess a port on the Adriatic Sea. Austria resented Serbia's designs on the ground that the small nation would cut off the dual monarchy from an outlet to the Mediterranean in a way as prejudicial to her interests as the closed Dardanelles were prejudicial to the interests of Russia.

730. The coat-of-arms of Andorra, one of the four vest-pocket nations of the world, has a quartered shield bearing thereon the episcopal miter, the crozier of Urgel, the red and yellow pales of Aragon, and two belled cows. Andorra is under the joint sovereignty of France and the Spanish Bishop of Urgel. It is governed by a council of twenty-four members elected for four years by the heads of families in each parish. The council elects a first and second syndic to preside; the executive power is vested in the first syndic, while the judicial power is exercised by a civil judge and two magistrates. France and the Bishop of Urgel each appoint a magistrate and a civil judge alternately. The permanent delegate of the prefect of the Pyrenees-Orientales has charge of the interests of France in the republic.

731. A century ago Napoleon declared, "I recall a miniature republic lost in a corner of the Pyrenees." Today the hero, the conqueror, and the soldier, merely a handful of dust, is often recalled by Andorra. But in its mildness, its weakness, its isolation, the republic has found strength, and its colors float upon the breeze as independent as they were a century ago, when they waved over an island of peace in the great sea of human carnage during the Napoleonic wars. For nearly six centuries it has been thus. The war between France and England, begun at Crecy and Poitiers, did not move the tiny country. Queen Isabella and Ferdinand left it unmolested. Charles V, dreaming dreams of empire as great as those of Charlemagne, did not crush it upon his way to the Netherlands or to Italy. Philip II, weaving his web of expanding power around so many principalities, cast no entangling thread about it. Cynical Louis XI did not deign to harm it, and Louis XIV, although he ordered that there should be no more Pyrenees, left it undisturbed. It was a spectator of the Carlist War in Spain in 1833 and of the contest between France and Germany in 1870.

732. Built upon a rampart of rocks and hidden upon the southern slope of the Pyrenees, liberty has found a home in Andorra for a thousand years. Appreciating the services rendered by the Andorrans in his campaign against the Moors, Charlemagne gave them a charter of freedom and permitted them to govern themselves. Louis the Pious confirmed these rights, and from that day to this the tiny country has been self-governed under its own code of laws. The Spanish Bishop of Urgel holds spiritual supremacy and looks after educational matters and religious instruction France exerts a temporal influence by appointing the provost from the department of Ariege to control the military activities of the republic. The blue, yellow, and red flag of Andorra, with its coronet in the center, is the youngest thing in the nation. It is only fifty years old, having originated in the reform of 1866 to emphasize the autonomy of the valley; but neither of the co-suzerains has approved it. It is displayed when the council is in session.

733. The flag of the Chinese army has a red field upon which is centered a black star bearing eight yellow points, with nine yellow disks on the body of the star. This is the flag of the republic and is entirely different from the one flown by the Chinese armies in the past.

734. The royal standard of Belgium consists of three vertical bars—black, yellow, and red—with black next the staff. The national arms are imposed upon the middle or yellow bar. These arms consist of a golden lion on a black ground. Its tongue and jaws are red. The shield is ensigned with the royal crown of Belgium and the supporters are two golden lions. The motto of Belgium is "L'Union fait la force" (Union makes strength). The black, yellow, and red of the Belgian flag are the colors of the Duchy of Brabant, and were adopted in 1831, when the monarchy was founded.

735. Belgium's merchant flag is a duplicate of the royal standard, except that the coat-of-arms is omitted.

736. The flag of the Chinese navy under the republic is red, with a blue canton in the upper corner next the staff, upon which is a large white sun with rays emanating in the form of small triangles. This flag succeeds the one in

which the dragon, on a yellow field, was shown in the act of devouring a red sun.

737. China's national flag, which is also used in the merchant service, consists of five broad horizontal stripes, the uppermost red, the next yellow, the next blue, the next white, and the one at the bottom black. These colors stand respectively for China, Manchuria, Mongolia, Tibet, and Turkestan.

738. The royal standard of Denmark consists of a swallow-tail red fly with the *dannebrog,* or silver cross, upon it. The origin of this cross is said to date from 1219, when King Waldemar, at a critical moment in his career, averred that he had seen this cross in the heavens. He asserted that it became strength for him and saved Denmark. At the intersection of the *dannebrog* is the coat-of-arms. The first quarter of the shield represents Denmark, with three blue lions, crowned, on a golden ground powdered with red hearts. The second quarter represents Schleswig, with two blue lions on a golden ground. The third quarter stands for modern Sweden and shows three golden crowns on a blue field; Iceland is represented by a silver hawk on a red ground; the Faroe Islands by a silver goat walking on a blue ground, and Greenland by a silver polar bear on a blue ground. The fourth quarter proclaims Jutland, a blue lion at the top on a golden ground with ten red hearts below; Vandalia has a golden dragon on a red ground, and Holstein is represented by three leaves of nettle and the three nails of the Passion of Christ. The supporters are two savage men wearing green wreaths and holding wooden clubs (see also 1172).

739. Denmark's ensign is the same as the royal standard (738), except that the national coat-of-arms is omitted. It is the oldest national ensign in existence.

740. The merchant flag of Denmark has a red field with a white cross upon it, and omits the swallow-tail feature of the ensign.

741. The flag of Iceland is of the same dimensions as the Danish merchant flag, the field being blue and the cross red, with thin white stripes separating the red of the cross from the blue of the field.

THE REPUBLIC OF FRANCE

742. The flag of the President of France consists of the French tricolor, with the initials of the President in gold on the white stripe.

743. The familiar and inspiring tricolor of France dates from the year that gave the United States its Constitution—1789. The best authorities are doubtful as to the true story of its origin, but there are three principal theories as to the derivation of its combination of colors. The first of these, and the most authentic, is that after the taking of the Bastille, when Lafayette had been appointed by acclamation commander-in-chief of the National Guard, he devised for the Guard a new cockade made of the white of the royal family and of the colors of Paris time out of mind, which were and continue to be red and blue. From this cockade, most historians believe, came the French national flag. Another version links the tricolor with the three historic flags of France—the blue of the Chape de Martin, the red of the oriflamme, and the white of the Bourbons. It will be recalled that the Chape de Martin was supposed to be the original cloak which St. Martin divided with a beggar at Amiens, which act was followed by a vision of Christ making known to the angels this deed of charity. The chape was in the keeping of the monks of Marmoutier, and Clovis carried it when he conquered Alaric, while Charlemagne bore it at Narbonne. When the kings of France transferred the seat of government to Paris, the local saint, St. Denis, was held in high honor, and gradually the plain scarlet banner, known as the oriflamme, and kept in the abbey church, supplanted the blue of St. Martin as the national colors. The oriflamme appeared for the last time at the battle of Agincourt, in 1415. The Huguenot party in France adopted the white flag, and when Henry III, himself a Protestant, came to the throne he made it the royal ensign. His successor, Henry IV, the first king of the Bourbons, adopted it as the national flag. The third account of the tricolor's origin is that it is copied from the shield of the Orleans family, as it appeared after Philippe Égalité knocked off the fleur de lis. During the first and second empires, the tricolor became the imperial standard, but in the center of the white stripe was placed the eagle, while all three stripes were richly powdered with the golden bees of the Napoleon family. The flag of France today waves over territory nearly one and a half times as large as that covered by the United States. French colonies have a total of approximately 4,500,000 square miles. Among the flags of the earth, only the Union Jack and the banner of Russia float over more territory.

744. The flag of the French Governors of Colonies consists of a blue field with a canton of white and red in the quarter next to the flagstaff, a blue stripe as wide as the white and the red stripe separating the canton from the staff. This flag is to be flown below the national ensign.

745. The flag of French Indo-China and of the Lieutenant Governor of Senegal is a duplicate of the flag of the French Governors of Colonies, except that it is swallow-tailed.

746. The flag of Greece consists of nine alternate stripes of blue and white, four white and five blue, with a canton of blue in the upper corner next the staff, upon which is imposed a white cross bearing at its point of intersection a Greek crown. The colors of the flag, white and blue, were derived from the arms of Otto of Bavaria, who was called to the throne of Greece in 1833. The motto of the nation reads, "My strength is my people's love."

747. The merchant flag of Greece is a duplicate of the ensign, with the exception that the crown is omitted from the cross in the canton.

748. The ambassadorial flag of Italy consists of a white fly, upon which is superimposed, in a line descending from the upper corner next the staff to the lower corner of the fly, three blue six-pointed stars.

749. When a merchant ship is taken over by the Italian navy, it flies a triangular pennant, the base half of which next the staff is

blue and the apex half white. Upon the blue is placed a crowned anchor, proclaiming the government and the navy.

750. Italy's royal standard consists of a square blue field on which is centered the national coat-of-arms. A crown appears in each corner of the flag outside the encircling collar of the Annunciation. Within this collar is a crowned black spread-eagle on blue. On its breast is an oval shield bearing a silver cross on a red ground, the arms of Savoy (see also 1181). The collar itself is composed of a series of red and white roses and the letters F. E. R. T., meaning "Fortitudo ejus Rhodum tenuit" (His firmness held Rhodes), this being a tribute to Amadeus the Great from the Knights of St. John of Jerusalem, in 1310, for his help against the Saracens at the siege of Rhodes. The pendant of the collar of the Annunciation bears a design representing that holy event.

751. When Napoleon made the northern provinces of Italy into a kingdom, in 1805, he gave it a flag of three colors—green next to the flagstaff, white in the middle, and red at the fly end. This flag disappeared when Napoleon was overthrown, but was revived when Victor Emmanuel, King of Sardinia and a representative of the house of Savoy, became king. Today Italy's ensign consists of the Savoy arms, surmounted by a crown, on the central white vertical stripe of Napoleon's green, white, and red.

752. The Italian merchant flag is an exact duplicate of the ensign, with the exception that the crown is omitted above the arms.

753. The flag of the Governor of Eritrea, the Italian colony in Africa, consists of a white field upon which are imposed the arms and crown of Italy.

754. The flag of the Emperor of Japan consists of a red field upon which is centered a golden representation of the yellow chrysanthemum. It is essential that the flower should invariably have sixteen petals. While the use of this flower as a badge is not necessarily confined to the imperial family, its members alone have the right to use the sixteen-petalled form. If used by any other family, society, or corporation, it must be with a number of petals less or more than sixteen.

755. The flag of the Japanese crown prince is like that of the emperor, except that the chrysanthemum is centered in a rectangle formed by a line of white on the red field of the flag.

756. The Japanese ensign consists of a rising sun, slightly to the left of the center of a white field, with rays radiating to all points of the compass. Both the sun and the rays are red, and the device is generally known as the sunburst.

757. The Japanese merchant flag is white, of rectangular form, with a rayless red sun in the center, its diameter approximately half the width of the field.

758. The Japanese guard flag is of white, with two horizontal parallel dancetty lines in red across it. A "dancetty" line is zigzag, resembling the "worm" of a rail fence, with deep indentations.

759. The Japanese transport flag is identical with the Japanese guard flag, with the exception that the dancetty lines are blue instead of red.

760. The Japanese commanding officer's flag is a swallow-tail white, with the red sun and four rays, two vertical and two horizontal.

761. This flag, flown by all ships under Japanese registry carrying mail, consists of a white field with two horizontal red stripes, separated by a narrower white stripe occupying the upper half. The lower half is quartered by a red stripe, which, with the lower of the two horizontal red stripes, forms a T-square.

762. The flag which distinguishes a Japanese repair ship is the same as that displayed by a transport, with the exception that the bottom and top of the white field are bordered with red stripes.

763. In 1910 the Kingdom of Korea was abolished by Japan, whose influence in this territory had been recognized as paramount by the treaty which ended the Russo-Japanese War. The name of Chosen was given the State, and the red and white of the Japanese ensign were utilized in the flag adopted.

764. The national ensign of Liberia, which is also the merchant flag, has eleven horizontal stripes of red and white, red at the top and bottom, with the blue canton in the upper corner next to the flagstaff, on which is superimposed a large white star. This flag was adopted at the time the Republic of Liberia was established, in 1847, by colonists from America.

765. The flag of the President of Liberia consists of a square blue standard upon which is imposed a shield containing the red and white stripes of the national colors, and above it the five-pointed star of the republic.

766. The coat-of-arms of Liechtenstein (see 767) consists of a shield imposed upon the mantle of the Prince of the Holy Roman Empire, with his crown forming the crest. On the escutcheon, which is quartered, are the arms of Silesia for Ritberg; the second quarter of the shield, with its six stripes of red and gold, and green crown of rue cutting them diagonally, represents Khuenring; the third quarter, half red and half silver, is for Troppau; the fourth quarter, of gold, with its black harpy crowned, represents East Frisia. At the point of the shield in blue is a golden hunting horn, representing Jagerndorf; the small red and gold shield in the center, imposed upon all four quarters, represents Liechtenstein itself.

767. With its field shared by yellow and red, the latter occupying the lower half, the national banner of the principality of Liechtenstein flies over a nation having an area of 65 square miles. This miniature principality lies between Austria and Switzerland. It consists of Schellenberg and Vaduz, formerly fiefs of the Roman Empire. Schellenberg in 1699 and Vaduz in 1712 came into the possession of the House of Liechtenstein and were set up as a principality by Emperor Carl VI in 1719. After the break-up of the empire in 1806, the principality was incorporated in the Rhine Confederation. When the map of Europe was remade after the Napoleonic wars, it became a part of the German Confederation and remained so from that time until 1866, when the Confederation broke up. Since then it has not joined

itself with any other nation. There is no public debt and the inhabitants have not been liable to military service since 1867.

768. With its tricolor of red, white, and blue in three horizontal bars, red at the top and blue at the bottom, the flag of Luxemburg flies over a country that did not raise a hand to check the invader in 1914. An alien army now passes over its soil at will and unresented. The population of Luxemburg is approximately 260,000, and it is governed by a reigning Grand Duchess and a Chamber of Deputies. The Grand Duchy was included from 1815 to 1866 in the Germanic Confederation. By the treaty of London in 1867 it was declared neutral territory and its integrity and independence were guaranteed.

769. The Prince of Monaco flies a flag consisting of a white field upon which is a crowned shield, covered with lozenge-shaped figures of red and silver, surrounded by the collar of the order of St. Charles, instituted in 1863. The shield bears as a pendant a Maltese cross. The supporters are two monks with swords. The motto placed over the shield is "Deo Juvante" (God Helping).

MONACO—SMALLEST NATION ON EARTH

770. The red and white flag of Monaco floats over the smallest nation on earth. The entire area of the territory, whose symbol of authority it is, is only eight square miles. Although it is smallest in area, there are three smaller in population. It has 23,000 inhabitants, as compared with 5,231 for Andorra, 10,716 for Liechtenstein, and 11,513 for San Marino. Monaco is a small principality on the Mediterranean, surrounded by the French department of Alpes-Maritime, except on the side toward the sea. After 968 A. D. it belonged to the house of Grimaldi. The reigning prince was dispossessed during the French Revolution, in 1792, and died in 1795. In 1814 the principality was reëstablished, but placed under the protection of the Kingdom of Sardinia by the treaty of Vienna in 1815. In 1848 the towns of Mentone and Roccabruna (now known as Roquebrune) revolted and declared themselves free. The prince thereupon ceded his rights over them to France and the principality thus became geographically an *enclave* of France, when the Sardinian garrison was withdrawn and the protectorate established in 1815 ended. The prince was an absolute ruler until 1911, when a representative government was set up.

771. The State flag of Montenegro has a red field bordered with white. In the center is the royal coat-of-arms, with its double-headed spread-eagle in silver and holding in its talons a scepter and an orb. A small shield on the breast of the bird contains the letters "H I," and underneath the eagle is a golden lion passant. The initial H is the Montenegrin N and refers to Nicholas, the King. "I" is the Roman numeral, the letters together standing for Nicholas I.

772. The military standard of Montenegro consists of a square field of red bordered with white, a Greek cross centered upon the red. The cross bears at its intersection the "H I" of the Montenegrin coat-of-arms.

773. The naval flag of Montenegro is a tricolor with red at the top, blue in the middle, and white at the bottom in horizontal stripes. On the blue is a gold crown, below which are the letters "H I." The merchant flag is the same as the naval ensign, except that the letters and crown are omitted.

774. Morocco's flag now consists of a red field upon which is imposed a five-pointed star of striking design. This star proclaims the passing of Turkish influence in Morocco. Under the old régime the familiar crescent of the Mohammedan world was borne on the Moroccan flag where the star is now imposed. The old flag of Morocco was red, bearing what appeared to be scissors, but which were in reality crossed yataghans.

775. The national flag of the Netherlands consists of three horizontal bars, red at the top, blue at the bottom, and white between. It is national flag, ensign, and merchant flag—all in one. In the sixteenth century it was orange, white, and blue, the orange being in honor of William the Silent, Prince of Orange. Both the victories of Van Tromp and De Reuter were gained under the present colors (see 377).

776. The royal standard of the Netherlands is buff quartered by a cross of blue. In each buff quarter there is placed a hunter's horn in blue, and upon the intersection of the cross is the royal coat-of-arms, consisting of a blue ground dotted with golden billets and bearing a crowned golden lion rampant. The lion grasps in one paw a naked sword and in the other a cluster of arrows. The shield has for its crest a crown.

777. The standard of the Prince of Netherlands is the reverse of the royal standard (1776) in its coloring. The cross is buff and the quarters are blue. Instead of the hunter's horns of the royal standard there are golden lions like the lion of the coat-of-arms, which appears in the center of the cross in both standards.

778. The flag of the Arabians, also typical of Muscat and Zanzibar, is scarlet. Elsewhere the red flag is the emblem of mutiny and disorder, and was carried recently by the Revolutionists of Russia during the eventful days which marked the overthrow of the Romanoff dynasty and the establishment of a republican form of government. The red flag was a widely used national emblem two centuries ago, Spain, Venice, Genoa, Tetuan, Salley, and Camphen being partial to it (see 1141, 1188, 1193, and 1194).

779. The Governors of Surinam and Curacao bear a flag which has the national colors of the Netherlands, with the addition of two white disks in the red stripe near the staff.

780. The merchant reserve of the Netherlands bears a flag which is like the national ensign, except that an anchor and a crown are imposed upon the middle of the white bar. In order to make room for these, an arc is cut out of the blue stripe at the bottom and the red stripe at the top and the white stripe enlarged accordingly.

781. The ensign of the Governor General of the Dutch East Indies is a triangular swallow-tail pennant showing the national colors of the Netherlands and attached to the flagstaff by the means of a toggle.

782. Repair ships of the Netherlands fly a flag with the regulation red, white, and blue bars, the staff end of the red bar giving way to white and forming a canton upon which is placed a red anchor capped by a crown.

783. The royal standard of Norway has a red field upon which is centered a golden lion rampant holding a battle-ax.

784. Norway's ensign is red and three-tailed, a blue cross edged with white extending to a point between the swallow-tail. It thus preserves the shape of the Swedish ensign, from which it was fashioned, that ensign having a yellow cross on a blue field (see 826).

785. The merchant flag of Norway is like the ensign (784), except that the swallow-tail effect is omitted.

786. The senior admiral's flag of Norway consists of the ensign with the addition of a saltire cross of white in the upper quarter next to flagstaff.

787. The imperial standard of Persia consists of a blue square field with the national colors in a small canton in the upper corner next to the staff. In the center is a white circle on which the Persian coat-of-arms appears, showing a lion holding a sword, a rising sun in the background, and the crown of the empire above the lion. The lower half of the circle is bordered by a wreath.

788. The military flag of Persia is unique in that it embodies a very pale shade of green and a delicate shade of pink as the upper and lower hues of its tricolor. The middle stripe is white and bears the Persian sword-carrying lion with the sun peeping over his back. The crown of the empire is imposed upon the green stripe. The wreath rests upon the pink.

789. The ensign of Persia is like the military flag, except that the crown and wreath above and below the lion are omitted.

790. The merchant flag of Persia is the same green, white, and pink arrangement as seen in the ensign and military flag of the nation, but without the Persian lion.

791. The colors of the flag of Portugal are green and red, the third of the field next the staff green, and the two-thirds at the fly end red. The arms of the country are centered on the dividing line between the two colors. These arms consist of a large silver shield upon which are five small blue ones arranged in the form of a cross, each of them bearing five plates of silver. Around the shield is a red border upon which are placed seven golden castles. Alfonso I defeated five Moorish princes in the historic battle of Ourique and adopted the five small blue shields to commemorate his triumph. The five white spots on the small shields represent the five wounds of Christ, in whose strength Alfonso believed he had defeated the infidels. The red border of the shield was added by Alphonse III in 1252, after his marriage to a daughter of the King of Castile. The circle of gold upon which the shield and its border are imposed, together with the green of the flag, which is that of the cross and ribbon of the Knights of St. Benedict of Aviz, commemorate the fame of Prince Henry the Navigator.

792. The flag of the President of Portugal is solid green, with the Portuguese coat-of-arms in the center.

793. The flag of the Governor General of the provinces of Portugal is white, with a strip of green placed horizontally across the field and the coat-of-arms centered on it.

794. The flag of the dependent Kingdom of Poland (so nominated after the Napoleonic wars) has a white field with the blue cross of St. Andrew, which proclaims Russian suzerainty. Upon the red canton is a crowned spread eagle.

795. Roumania's flag has three vertical stripes, blue next the flagstaff, yellow in the middle, and red on the fly. In the standard the blue and the red bars are narrow and the yellow very wide. Upon the yellow is placed the national coat-of-arms, a canopy of ermine on which is a crowned shield. On the quartered field of the shield appear a golden eagle displayed on blue, a lion's head in gold displayed on red, a golden demilion issuing from an antique crown on red, and two dolphins in gold displayed on blue. There is also a small shield of pretense quartered in white and black. The shield is supported by golden lions rampant. The motto, "Nihil sine Deo" (Nothing without God), is below the shield on a ribbon. Four crowns appear, one in each corner of the flag.

796. The Roumanian ensign is like the standard, except that the three stripes are of equal width, and crowns in the four corners of the flag are omitted.

797. Roumania's merchant flag is blue, yellow, and red, like the ensign, except that the arms are omitted.

798. The Roumanian coast guard flag has the national colors, together with an anchor, above which is a crown on the yellow stripe.

RUSSIAN FLAGS

799. The ensign of the Russian navy is a blue cross of St. Andrew upon a field of white. The Russians venerate St. Andrew as their patron saint, believing that it was he who secured the adoption of Christianity by their ancestors. It has been asserted that he preached in Scythia. Peter the Great, under his name and protection, in the year 1698, instituted St. Andrew's as the most noble order of Knighthood of the Empire. St. Andrew is also the patron saint of Scotland, but there the cross is white upon a field of blue (see 831).

800. The white, blue, and red horizontal stripes of the Russian merchant flag are reminiscent of the day when Peter the Great was learning ship-building in Holland. The Dutch flag is a tricolor of red, white, and blue. Peter, in making his flag, turned these colors upside down, but was afterward advised that he was flying the flag employed by the Dutch as a signal of distress and disaster. He thereupon revised his flag, putting the white at the top and the red at the bottom, with the blue between.

801. The flag of the volunteer fleet of Russia is the same as the merchant flag, except that there is a trumpet in the center of the blue field.

802. Russia's customs flag consists of a blue field with a canton in the upper corner next the staff showing the merchant flag in miniature, while in the lower corner next the staff are two combination caducei and tridents, crossed.

803. The flag of the Russian admiralty consists of four anchors interlocked and arranged in the form of a St. Andrew's cross.

804. The flag of the Commander-in-Chief of the Russian Navy is flown only while the country is at war. It consists of a white field upon which is imposed the blue cross of St. Andrew, the upper quarter nearest the staff being occupied by a canton consisting of a white-bordered blue cross of St. Andrew and a white St. George's cross on a red field. A blue anchor is centered in a white field imposed upon the insection of the crosses.

805. The flag of Russia's Minister of War consists of a white field with a red canton on which is imposed the blue cross of St. Andrew and the white cross of St. George. Here again the Russians reverse the British in their insignia, the latter placing the scarlet cross of St. George on a field of white, while the Russians place a white cross on a field of scarlet. Below the canton appears the shield with crossed muskets and cannons.

806. The flag of Russia's aëronautic service is like that of the Minister of War, except that the fly is shorter and the shield in the lower left-hand corner is omitted, while a red-winged anchor is added in the lower right-hand corner.

807. The royal standard of Serbia consists of a field of red, blue, and white, surrounded by an indented border of the same colors. Upon the field, which is square, is centered the coat-of-arms of the country. This consists of a red shield within a crowned ermine canopy. The shield bears a silver eagle displayed, having upon its breast another shield with a silver cross and the date 1804. The supports are two natives holding flags of the colors, while the motto is "Spes mihi prima Deus" (My hope is God first of all).

808. The Serbian merchant flag is red, blue, and white, like the Russian merchant flag inverted. The latter flown as a signal of distress might be mistaken for the Serbian merchant emblem normally displayed. As Servia has no seaport and no merchant navy, 808 is largely a flag of hope for a navy.

809. Russia's transport navy flies a blue flag with a white canton upon which appears the blue cross of St. Andrew.

810. Russian transports employing civilian crews fly a blue flag with a union next the flagstaff in the upper corner, showing the colors of the country.

811. The flag of Siam consists of a scarlet field on which is a white elephant. The elephant is in full trappings and harness and stands on a platform. In the upper corner next the hoist appear a pagoda-crowned anchor and a wheel. The elephant recalls the tradition of the founder of the nation. Before Xacca, the reputed founder, was born, his mother dreamed that she had given birth to a white elephant. The Brahmans affirmed that Xacca, after undergoing 80,000 reincarnations, finally did actually become a white elephant, and as such was received into the company of the celestial deities. On this account the white elephant is held a sacred beast, and the Siamese rejoice to place themselves beneath so potent a protector.

812. The merchant flag of Siam now consists of a field of five stripes—red, yellow, red, white, red. The central red stripe is broader than the other four stripes, which are of equal width. This flag replaces the old red flag upon which was imposed the white elephant of Siamese tradition without any trappings or harness and without the anchor and wheel of the national ensign. The merchant flag is of recent origin. The flag book of the United States Navy, published in 1914, and that of the British Admiralty, published even more recently, show the elephant flag instead of the new striped one.

813. The Siamese emblem of royal authority, the royal standard, has an orange-hued field upon which is represented an image of the East, a man eagle. This standard is of comparatively recent adoption. Formerly there was used a blue flag having a red border. Upon this was imposed the royal coat-of-arms, which consisted of an escutcheon portraying a three-headed elephant in the upper half and the white elephant and crossed swords in the two quarters of the lower half.

814. This is the coat-of-arms of what claims to be the oldest State in Europe—San Marino. Next to Monaco, it is in area the smallest independent country in the world. It has thirty square miles of territory and a population of 11,513. The coat-of-arms consists of three hills in gold upon a field of blue. These hills are Monte Guiato, Monte Cucco, and Monte Gista, each bearing a castle surmounted by a plume. The shield has a gold crown as a crest and is surrounded by branches of laurel and oak united by a ribbon inscribed with the word "LIBERTY."

815. The merchant flag of San Marino, which, though that of a belligerent, the little republic having dared to declare war against the Central Powers, has probably never yet been encountered by a German submarine because, as may well be imagined, the merchant navy of the mountain republic is not large.

816. The ensign of the Republic of San Marino consists of a field the upper part of which is blue and the lower half white. The coat-of-arms is centered on it. It is this flag that the soldiers of San Marino carry when they march to the aid of their ally, Italy.

817. The royal standard of Spain proclaims more of the glory of the empire that was than of the country which now exists. It consists of a purple field upon which is imposed the Spanish coat-of-arms. This bears the lion of Leon and the castle of Castile. It also bears the arms of Aragon; the device of Sicily; the red and white stripes, which proclaim the arms of Austria; oblique stripes of yellow and blue within a red border, which tell of the flag of ancient Burgundy; the black lion on the golden ground, which is the heraldic bearing of Flanders; the red eagle, which is the device of Antwerp; the golden lion of Brabant; the fleur-de-lis and checkers of ancient Burgundy; the arms of Portugal, and the fleur-de-lis of France. The whole is surrounded by the collar of the Golden Fleece.

818. The ensign of Spain is yellow, bordered at the top and bottom by a stripe of red. On the broad yellow stripe is an oval shield bearing a crown and showing the arms of Castile impaling Leon.

819. The merchant flag of Spain consists of five stripes, three yellow and two red, yellow at the top and bottom. The central stripe is wider than the others. The flag bears no device, but the colors are those of Aragon and Castile.

820. The flag of Switzerland consists of a red field with a white cross. When the Red Cross was recognized at the International Conference at Geneva, in 1863, a distinguishing badge was devised for times of war and peace. It will be noticed that the colors adopted are those of Switzerland counterchanged, the red cross being in a white ground.

821. The Captain General of the fleet of Spain flies the familiar red and yellow colors with an anchor placed horizontally on the yellow bar.

822. Spanish ambassadors fly a swallow-tail flag made up of white, red, and yellow. The third of the flag next to the staff is white and red, white at the top and red below. The middle bar of the flag is yellow and upon it two crossed tasseled pencils are imposed. The third of the flag at the fly end is red.

823. The flag of a Spanish minister is like that of an ambassador, except that instead of the pencils there are three blue disks on the yellow bar.

824. The military and naval service of Tunis has a flag consisting of a red field, upon which is centered a white disk having a diameter half the vertical width of the flag. Upon this disk a red crescent and a red star are imposed. The flag is inherited from Turkey, although it is no longer under Turkish domination.

825. The royal standard of Sweden consists of a blue flag bearing a yellow cross. This flag is swallowtailed and the horizontal arm of the cross in the fly projects. Upon the intersection of the cross is placed the coat-of-arms of the country.

826. The ensign of Sweden is like the royal standard, with the exception that the coat-of-arms is omitted.

827. The merchant flag of Sweden is a rectangular blue flag, bearing the yellow cross. The blue and yellow were regarded as colors of freedom and independence at the time they were incorporated in the Swedish flag.

828. The standard of the Bey of Tunis is a fearfully and wonderfully made flag. It consists of seven horizontal stripes—red, yellow, red, green, red, yellow, red—the green stripe being double the width of the others. The stripes do not extend the full length of the flag, but join a narrow green stripe next to and parallel with the staff. Every red stripe has four yellow-centered green disks and four yellow stars arranged alternately. On every yellow stripe are four red stars and four black disks with red centers arranged in the same way. On the broad central green stripe is a double-pointed dagger with white blade and red handle, gold and red stars being distributed about it. This flag is a western variation of the old flag of the days of Moslem authority. In those days there were thirteen stripes instead of seven. Tunis is now under French dominion and the tricolor is the supreme banner of the land.

THE FLAGS OF THE BRITISH EMPIRE

829. The national flag of the British Empire, the union jack, combines the crosses of St. George (830), St. Andrew (831), and St. Patrick (832). When the union of the two crowns of England and Scotland took place upon the accession of James VI of Scotland to the English throne as James I, the cross of St. Andrew, the patron saint of Scotland, and that of St. George, the patron saint of England, were combined, and all ships were ordered to fly at their maintop the new flag, while at the foretop the English were still to fly the red cross of St. George and the Scots the white cross of St. Andrew.

This was the first union jack (361), as it is generally termed, though, strictly speaking, the name of the flag is "great union," being a jack only when flown from the jackstaff of a ship of war. James I always signed his name "Jacques," and it is believed in many quarters that the jack and the jackstaff of the navy derived their names from that fact. Others contend that "jack" was used as early as the close of the sixteenth century. Lord Howard's ships in their attack upon the Spanish Armada, in 1588, are described as carrying a "jack" on the jackstaff, their jack being a small edition of the red cross of St. George.

That St. George's cross was placed over St. Andrew's was distressing to the Scots, who made it the subject of an appeal to the King (see 1132). But even a king cannot solve all of the problems of heraldry. That art has no way of making two devices on a flag of equal value. If they be put side by side the position next the staff is more honorable than the one remote from it, just as the upper portion of a flag is more honorable than the lower. After the death of Charles I, the union of Scotland and England was dissolved and the ships of parliament reverted to the use of the simple cross of St. George, while those of Scotland took up the cross of St. Andrew again. When Cromwell became protector he restored the union flag, imposing the Irish harp upon its center.

After the Restoration, Charles II removed the harp, and so the original union flag was revived and continued in that form until 1801, when, upon the legislative union of Great Britain and Ireland, the cross of St. Patrick was incorporated. To combine these crosses without losing the characteristic features of each was not easy. Each had to be distinct and at the same time retain a border which would denote its original ground. To place the red cross of St. Patrick on the white cross of St. Andrew would have obliterated the latter, and *vice versa*. Therefore it was decided to make the white broader on one side of the red than the other. This breaks the continuity of direction of the arms of St. Patrick's cross, but permits the Irish and Scottish crosses to be distinguished from one another.

The union jack flies from the jackstaff of every man-of war in the British navy. With the Irish harp on a blue shield displayed in the center, it is flown by the Lord Lieutenant of Ireland. The Governor General of India adds to it the star and device of the Order of the Star of India and flies it; colonial governors add the badge of their colony in the center and fly it; diplomatic representatives use it with the royal arms in the center. As a military flag it is flown over fortresses and headquarters, and on all occasions of military ceremony. The admiral of the fleet hoists it at the mainmast of a man-of-war as his flag.

830. The red cross of St. George is reputed to have originated during the Crusades. The story goes that while engaged in a great battle the soldiers of England were wearied and, seeing that the number of enemies did not decrease, began to despair. At this critical moment an infinite number of heavenly soldiers, all in white, descended from the mountains, the standard bearers and leaders of them being St. George, St. Maurice, and St. Demetrius. When the Bishop of Le Puy first beheld them he cried aloud to his troops, "There are they, the succours which in the name of God I promised you." As a result of the miracle the enemies turned their backs and lost the field, there being slain one hundred thousand horse, besides foot innumerable, and in their trenches such infinite store of victuals and munitions were found that the Christians were refreshed and the enemy confounded. This great victory at Antioch led to the recovery of Jerusalem, and during the Crusades England, Aragon, and Portugal all assumed St. George as their patron saint.

The cross of St. George was worn as a badge over the armor by every English soldier in the fourteenth century, if indeed not in earlier times. It was the flag under which the great seamen of Elizabeth's reign traded, explored, and fought; it was the flag that Drake bore around the world; and to this day it is the flag of the British admiral (see 605).

831. St. Andrew has been the patron saint of Scotland since about 740 A. D. How he came to be such has never been satisfactorily settled. When he suffered martyrdom, in the year 69 A. D. at Papras, his remains were carefully preserved; but in 370, Regulus, one of the Greek monks to whom they had been entrusted, learned in a vision that the Emperor Constantine was proposing to move them to Constantinople. In compliance with the instructions received in the vision, Regulus at once visited the shrine and removed the arm bones, three fingers of the right hand, and a tooth, and, putting them into a chest, set sail with some half dozen companions. After a stormy voyage the vessel was dashed upon a rock and Regulus and his companions landed on an unknown shore and found themselves in a gloomy forest. The natives there listened to their story and gave them land on which to build a church for the glory of God and the enshrining of the relic. This inhospitable shore proved to be that of Caledonia (Scotland).

832. Authorities agree that, devoutly as millions love it, the use of St. Patrick's cross is in defiance of all ecclesiastical usage and custom, because St. Patrick never suffered martyrdom, but died in his bed at the ripe age of ninety. It is said that he was never canonized, and that his sainthood, like his cross, is due to popular error. It has been suggested by some that the X-like form of cross, both of the Irish and of the Scots, is derived from the sacred monogram of the labarum of Constantine, where the X is the first letter of the Greek word for Christ. This symbolic meaning of the form might readily have been adopted in the early Irish church and thence carried by missionaries through Scotland. Another suggestion is that the red cross on a white field was the heraldic device of the Geraldines, dating at least from Maurice Fitzgerald, the grandson of Rhys, the great King of South Wales, who landed in Ireland in 1169 on the invitation of King Dermod of Leinster, and that it is in fact a banner not of St. Patrick, but of the Norman Invader, which was adroitly held up to the people of these islands as distinctive of the patron saint.

St. Patrick was born in Scotland, near where Glasgow now stands. The date of his birth was about the middle of the fifth century. His father was of good family, and while the future saint was under the paternal roof divers visions revealed to him that he was destined for the great work of the conversion of Ireland, at that time steeped in idolatry. He resigned his birthright and social position and took the burden of the Irish upon him. Ordained a deacon and priest, he was ultimately made a bishop, in which capacity he traveled over the whole island, founding monasteries, and filling the country with churches and schools and with piety and learning. Tradition has it that he found Ireland a land of barbarism and left it a seat of learning and piety. It continued for centuries a center of mental and spiritual light.

833. With its three golden lions representing England, its red lion rampant standing for Scotland, and its golden harp for Ireland, the royal standard was first hoisted on the Tower of London on the first day of January, 1801.

How England came to be represented by three lions is not entirely clear. Two lions were assigned as the arms of William the Conqueror, a lion each for Normandy and Maine, but there is no distinct evidence that he bore them. As a Crusader, Richard Cœur de Lion's banner bore two lions combatant, but on his second great shield three lions passant guardant appear. The date of this shield is 1195, so that for nearly seven and a quarter centuries, with the exception of the days of Cromwell, the three golden lions on the red field have typified the power of England.

The rampant lion of Scotland dates from the time of William the Lion, about 1165. It became a part of the royal standard in 1603. The Scots did not like the idea of their lion being placed in the second quarter any more than they relished the thought of St. Andrew's cross being placed under that of St. George. They claimed that after the death of Queen Elizabeth the Scottish crown virtually annexed the English, and felt so bitter about it that for many years after the union on all shields devoted to Scottish business, and on the flag displayed north of the Tweed the arms of Scotland were placed in the first quarter, as they are on the monument to Queen Elizabeth in Westminster Abbey (see also 1132).

The early standard of Ireland contained three gold crowns on a blue field. Henry VIII substituted the harp, and James I finally placed it on the third quarter of the royal standard. The Earl of Northampton, writing in the reign of King James I, suggested that the best reason that he could observe for the use of the harp was that it resembled the country it typified in being an instrument that cost more to keep it in tune than it was worth.

The royal standard is hoisted only when the King is actually within the palace or castle, or at the saluting point, or on board the vessel which flies it. The King's regulations say: "The royal standard, being the personal flag of a sovereign, is not to be displayed in future on board His Majesty's ship or on official buildings, as has hitherto been customary on His Majesty's birthday and other occasions; but it shall only be hoisted on occasions when the sovereign is actually present or when any member of the royal family is present, representing the sovereign."

834. The white ensign, bearing the red cross of St. George with the union flag of the Empire as its canton, is the fighting flag of the British navy. When at anchor in home ports the British ships hoist their colors at 8 o'clock in the morning in the summer-time and at 9 o'clock in the winter, and when abroad either at 8 or 9, as the commander-in-chief directs. On the hoisting of the ensign all work stops and all ranks must get on deck, standing at the salute as the band plays the opening bars of the national anthem, the man at the halyards timing his pulls, so that the ensign reaches the truck at the last note of the band, just as it reaches the deck in the evening, when it is played down. The regulations provide that British ships shall not on any account lower their flags to any foreign ships whatsoever, unless the foreign ships shall first or at the same time lower their flags to them.

835. The blue ensign of the British Empire is now flown by naval reserve vessels, public officers afloat, the consular service, the government vessels of the several colonies, by hired transports, by hired surveying vessels commanded by officers of the royal navy, by commissioned officers serving as mail agents, by the Fishery Board for Scotland, by the Pacific Cable Board ships, by Lloyds (in boats), by the Indian Marine, and by Royal Naval Reserve. The privilege of flying the blue ensign is also allowed to British merchantmen commanded by officers on the retired list of the royal navy, or by officers of the Royal Naval Reserve, on condition that either officer commanding the ship is one of these, that ten of the crew belong to the reserve, or that the ship is in receipt of an admiralty warrant. Yacht clubs (except the royal, which flies the white) fly the blue ensign. When flown by ships belonging to the British public service, it bears in the fly the seal or badge of the office to which the ship is accredited. For example, hired transports fly it with a yellow anchor in the fly (see 846); the ordnance department of the War Office displays it with a shield on the fly bearing a cannon and cannon balls (see 854).

836. No other flag in the world flutters in the breeze of as many ports or sails as far and wide as the red ensign of the British Merchant Marine. At the beginning of the present war nearly one-half of all of the cargo- and passenger-carrying ships of the earth sailed under these colors. It is not improbable that more than half of all the passengers and cargoes sailing the seven seas were carried upon them, for no nation's ships were more efficiently handled. At that time the tonnage of the British Merchant Marine was more than four times as great as that of Germany.

837. Uther Pendragon, father of King Arthur, had a vision of a flaming dragon in the sky. This his seers interpreted as meaning that he should ascend the throne. After his accession he had two golden dragons fashioned, one of which he carried into battle. The Anglo-Saxon kings were impressed with the image and incorporated it into their arms. Not until the twentieth century was it officially restored, as proper only to the race of Uther Pendragon. Under the reign of Edward VII it was incorporated into the armorial bearings of the Prince of Wales.

838. The lion rampant with the tressure, which is the device of Scotland and which is seen in the second quarter of the British royal standard, first appeared on the seal of King Alexander II about 1230 A. D. Without modification in color or form, it was borne by all the sovereigns of Scotland, and on the accession of James VI to the throne of England as James I, in the year 1603, it became an integral part of the king's standard, and has so remained to this day.

839. The story of the harp of Ireland, which appears on the blue field of the Irish standard, has been told in the account of the history of the British royal standard (833), on which it appears in the third quarter (see also 1133).

840. The three golden lions of the standard of England are, as told in 833, of doubtful origin. Certain it is that, except for the break which occurred in the years that Cromwell was Protector, they have typified the might of England for seven hundred years.

841. The royal family's standard of the British Empire is the same as the royal standard (833), except that it has a white border and bears as an escutcheon of pretence the arms of Saxony (998), proclaiming the continental origin of the royal family. As the name of the reigning family has been changed recently, it is probable also that its standard will be changed in this same particular.

842. The flag of the Lord Lieutenant of Ireland is the national flag of the British Empire, with the golden harp of the Irish on a blue escutcheon at the intersection of the crosses.

843. The County Lords Lieutenant, when on land, fly the union with a crown over a sword borne horizontally along the middle arm of St. George's cross. Each county of Great Britain and Ireland has such a chief official, who controls the appointment of justices of the peace and issues commissions in the local military organizations, and in earlier times was charged with the defense of his county in case of disturbance.

844. The flag of British diplomatic functionaries is that of the Empire, bearing upon the intersection of the crosses a white shield surrounded by a garland. The shield is charged with the royal arms—that is, the lions of England, the red lion of Scotland, and the harp of Ireland—in the quarters corresponding to those of the royal standard (833), with a lion and a unicorn, rampant, for supporters.

845-860. These are the flags of various departments of the British Government.

BRITISH COLONIAL FLAGS

The union jack (829) is the national flag of the colonies as well as of the mother country, and, although it is a rule more honored in its breach than in its observance, no other flag is to be flown ashore. The ensigns are, strictly speaking, maritime flags and are not supposed to be displayed ashore. According to British flag law, the union jack, in its plain condition and without emblazonment or badge, is the only flag an individual or corporation in British realms may properly fly. However, since the shipping of the principal colonies is accustomed to fly the red ensign with the badge of the colony represented in the fly (see 871, 911, 968, etc.), this flag is frequently, if not indeed usually, displayed by the people of the several colonies as their particular flag. Vessels bearing colonial governors or other administrative officials of badge-possessing rank fly the union jack with a badge of the colony placed within a wreath at the intersection of the crosses. Vessels of the colonial public service display the blue ensign with the badge of the colony from which it hails in the fly.

861. The badge of Gibraltar is a castle and key, appropriate to the strategic position of this natural fortress. An inscription on a scroll below represents Mount Calpe, Calpe being the ancient name of the European Pillar of Hercules as distinct from Ape's Hill, the African Pillar.

862. The badge of Malta is a gold-bordered shield of white and red, and not the eight-pointed silver cross of the Hospitallers (see 1169).

863. The badge of Cyprus has two red lions adapted from the antique.

864. The badge of the Isle of Man consists of an escutcheon upon which are three tricorporate running legs. They are joined at the upper part of the thighs and flexed in a triangle. Once these legs were the arms of Sicily, but they were bare; when appropriated by the Manxmen, they were first supplied with hose, later incased in armor, and finally equipped with spurs.

865. Alderney's badge is a green medallion bearing a golden lion crowned and rampant.

866. Jersey contents herself with a badge showing the three lions of England.

867. The badge of Guernsey shows the three lions of England with the addition of a sprig at the top.

868. The flag of the Governor General of Canada consists of the national flag of the British Empire with the arms of Canada, surrounded by a wreath and crowned, imposed upon the intersection of the crosses.

869. The badge of Canada has a shield quartered. In the first quarter is the shield of Ontario (872), in the second of Quebec (873), in the third that of Nova Scotia (874), and in the fourth that of New Brunswick (875). The provinces of Prince Edward Island, Manitoba, and British Columbia do not appear, having joined the Dominion after the arms were devised. Around the escutcheon are intertwined wreaths and above it the crown of the Empire.

870. The blue ensign of Canada is the British blue ensign with the addition of the escutcheon of the Colonial Government imposed on the fly end.

871. The merchant flag of Canada is the red ensign of the British merchant marine, with the shield of the Canadian Government imposed on the field.

872. Ontario's badge has an escutcheon, the upper third of which bears a cross of St. George on white and the lower two-thirds three maple leaves on green.

873. The badge of Quebec is an escutcheon of gold with a horizontal bar of red in the center. At the top of the shield are the lilies of France, which proclaim the old French dominion. The lion of England on the red bar proclaims the present rule, and the maple leaf at the bottom is the emblem of Canada itself.

874. Nova Scotia's badge is an escutcheon of gold with a horizontal bar of blue in the middle. The bar bears a silver salmon. Above and below the blue stripe are thistles, which are reminiscent of Scotland (see also 386).

875. Bearing the golden lion of England at the top and the ancient lymphad or galley below, the badge of New Brunswick has the same colors in its field as that of Quebec.

876. Manitoba's badge is an escutcheon bearing the cross of St. George at the top on white and a natural-colored buffalo on green below.

877. Prince Edward Island, which joined the Dominion in 1873, has for its badge a shield which bears the British lion at the top on red and two trees, one large and one small, on white. The inscription is "Parva sub ingenti" (The little under the great).

878. British Columbia's badge consists of a shield bearing the union jack at the top and a rising sun below, its rays extending over five blue and white horizontal stripes which occupy the middle section of the shield.

879. Newfoundland is Great Britain's "senior colony," being the earliest discovered, though not continuously occupied, of British overseas dominions. Its badge is a Mercury introducing to Britannia a kneeling sailor who has just landed from a boat. "These gifts I bring you" is the inscription. At the top are the words "Terra Nova."

880. Bermuda's badge is a white shield on which is represented the wreck of the *Sea Venture*, under Sir George Somers, in 1609. There is shown a cliff loftier than the ship's masthead, and the imposed escutcheon bearing the scene is supported by a red lion.

881. A large and two small ships within a garter surmounted by a crown constitute the principal device of the badge of the Bahamas. On the garter are words which tell us that the pirates have been expelled and that business has been resumed. This is the badge of the group of islands which include what is now known as Watling's Island, believed to have been the first landing place of Christopher Columbus, who called it San Salvador.

882. The badge of Sombrero and Bahama Lights has a blue field bearing a ring of red inclosing a lighthouse shedding its rays. The ring is crowned and inscribed "Board of Trade." Above the crown is a scroll bearing the word "Bahamas."

883. Jamaica's badge shows an escutcheon bearing St. George's cross and surmounted by a lizard. Upon the cross are distributed, one at each arm and one at the intersection, five pineapples. The escutcheon is supported by two Indians.

884. The Turks and Caicos Islands, which are close to the Bahamas, have an escutcheon which consists of a full-rigged sailing ship in the background, a man making salt in the middle foreground, and the name of the islands below.

885. On the badge of the Leeward Islands appears in the middle distance a mountainous coast, skirted by a full-rigged ship; in the foreground is another ship; on the shore a pineapple, larger than either ship, and three smaller ones. Above the whole appear the British royal arms.

886. Britannia, robed in blue, red, and ermine, and ruling the waves from the backs of two sea-horses, forms the principal scheme of the badge of Barbados. One sea-horse in this badge has a blue tail.

887. The Windward Isles have a badge which makes use of a garter encircling a blue field, upon which is placed a quartered shield—red, yellow, green, and purple. The device is crowned. The motto is, "I Pede Fausto," "Make a propitious beginning."

888. St. Lucia, the chief coaling station of the British fleet in the West Indies, has for a badge a landscape in which appear the Pitons, twin mountains of the island, and the ever-bubbling volcano Soufrière, with a land-locked harbor in the foreground. The Latin motto below describes this harbor as "Hardly a faithless guard for ships."

889. St. Vincent's badge has a classical group showing a woman holding a branch and another kneeling before the altar of the law, upon which she is placing a wreath. The badge bears the motto, "Pax et Justicia."

890. Discovered by Columbus on his third voyage, Grenada seems to have taken his ship in full sail and running before a spanking breeze toward the island, as its badge. The inscription "Clarior e Tenebris" means "Brighter out of the darkness," and doubtless refers to the fact that Grenada is beyond the hurricane line.

891. The badge of British Guiana, the British Empire's continental holdings on the coast of South America, consists of a clipper in full sail surrounded by a garter of gold.

892. The facts that British Honduras is a mahogany colony, that it belongs to the British Empire, and that it is given to trading, are brought out in the shield of the colony, which is circular, one-third of it being devoted to the display of the tools of mahogany logging, the second third showing the union jack, while the remaining third bears a full-rigged sailing ship.

893. Trinidad and Tobago have a badge which shows a mountain in the background, a frigate in the left middle ground, and a blue ensign on a jetty in the right middle ground. A boat, a smaller ship, a house, and several spars showing behind the jetty complete the picture. Below, on white, is a Latin inscription meaning "He approves of the people uniting and entering into treaties."

894. A white bull standing in tussac grass and a frigate in a river close by form the badge of the Falkland Islands, lying off South America and belonging to England.

895. The smaller British islands of the Pacific are under the control of the Western Pacific High Commissioner. His badge is the crown of the Empire above the letters W P H C.

896. The main feature of the badge of the Fiji Islands is an escutcheon bearing at the top on red the British lion. Below is the red cross of St. George on white. The quarters thus formed bear specimens of the vegetable and bird life of the islands. The shield is supported by two Polynesians wearing skirts of straw and standing on a scroll upon which is inscribed a motto in the native language. The crest is a native catamaran in full sail.

897. The resident commissioner of the New Hebrides has as a badge a disk of white encircled by a wreath of green and red and bearing a crown with the words NEW HEBRIDES around it.

898. The Protectorate of the British Solomon Islands has a simple badge, consisting of the royal crown, surrounded by the three words on a white field, BRITISH SOLOMON ISLANDS.

899. The British Resident of the Gilbert and Ellice Islands, in the southern Pacific, has a badge which consists of a white field bearing below the letters B R, above which is a crown.

900. The Governor of New Zealand flies a flag which consists of the national flag of the British Empire, bearing at the intersection of the crosses the badge of the island (901).

901. New Zealand's badge is a wreath-encircled design of white, bearing four stars in the form of a cross, with the letters N Z in the center. The stars are emblematic of the southern cross, which appears in the skies over New Zealand.

902. The blue ensign of New Zealand bears the southern cross on the fly, the stars being red with white borders.

903. The red ensign of New Zealand bears the southern cross in white stars of five points.

904. The ensign of Paratonga, which flies over sundry islands in the Pacific, has a field consisting of three stripes, the upper and the lower red and the middle one white. Upon the white stripe are three five-pointed blue stars.

905. The Friendly Islands of the South Pacific, constituting the Protectorate of Tonga, have an ensign with a red field and a white canton in which appears the cross of St. George.

906. The standard of the Protectorate of Tonga has a quartered field, the first and fourth gold, the second red, and the third blue. The first quarter bears three six-pointed stars. The red quarter bears a crown. The third quarter bears a flying dove. On the fourth quarter are three "big sticks." Upon the center is a six-pointed white star bearing a small St. George's cross.

907. The customs flag of the Protectorate of Tonga consists of a field the upper part of which is blue, the lower part white, with a white canton, upon which is imposed the red cross of St. George. On the white part of the field are the initials H M C, proclaiming His Majesty's Customs.

AUSTRALIA'S FLAGS

908. The flag of the Governor General of Australia is the familiar union jack bearing upon the intersection of the crosses a wreath-encircled, crowned star, which is the badge of the Commonwealth.

909. The star of Australia originally had six points, one for each of the original States, but was altered to include a point for the Northern Territory. The present badge of the Commonwealth is therefore a seven-pointed star, with a crown above, set within a laurel wreath.

910. The blue ensign of the Commonwealth of Australia has a large seven-pointed star below the union, and on the fly end five small stars representing the Southern Cross. The Southern Cross exercises a strong appeal to the people south of the Equator. Even Humboldt felt its influence and said that in the solitude of the seas it was hailed as a friend from whom he and his companions had long been separated. This constellation never sets in Australia (see also 835).

911. By a warrant of the Lords Commissioners, issued in 1903, vessels registered in Australia were authorized to fly the red ensign or merchant flag of Great Britain "having in the center of the lower canton next the staff and pointed directly to the center of the St. George's Cross a white six-pointed star, indicating the six Federated States of Australia," and in the fly the Southern Cross, as in the blue ensign. In 1908 the desirability of adding a seventh point to the star of Australia, for the Northern Territory, was recognized, and merchant vessels were authorized to fly the red ensign as pictured here.

912. A blue Maltese Cross coming down from the order of St. John and bearing the crown of the Empire on the intersection forms the badge of Queensland.

913. New South Wales has for its badge a St. George's cross on white, with the lion of the British Empire on the intersection and four golden stars of the southern cross on the arms.

914. The State of Victoria in the Commonwealth of Australia has for its badge a blue field bearing the constellation of the southern cross, with the royal crown of the Empire above.

915. South Australia has made the white-backed piping crow take the place of the American spread eagle on her arms. The badge of that State consists of a yellow field bearing the piping crow displayed.

916. The celebrated black swan, which was first discovered on western Australia's principal river, since named the Swan, has served to typify in the popular mind the contrariety of the southern continent's flora and fauna to those of the rest of the world. This bird represented on a circular gold field has been appropriately chosen as the badge of western Australia.

917. A red lion passant upon a circular white field serves as the design on the badge of Tasmania.

918. The badge of the territory of Papua is a white disk, with the name of the territory below and the crown of the British Empire above.

919. The flag of the North Borneo Company is a British union jack, bearing upon its intersecting crosses a red lion, on a field of gold.

920. Sabah, a small settlement on the Malacca Strait side of the Malay peninsula, and included within the State of Selangor, has a governor whose flag is yellow, with a red lion centered, in what the exponents of heraldry call a passant guardant attitude.

921. Sarawak, a territory of some 42,000 square miles on the coast of Borneo, has a yellow flag upon which is imposed a cross of St. George, the half of which, next the staff, is black instead of the regulation red. Upon the intersection of this cross is superimposed a crown.

922. The flag of the Rajah of Sarawak is like that of the country he rules, except that the arm of the cross next the fly is split apart, and each section tapered, extending to a corner of the fly. In 1842 Sir James Brooke bought a large territory from the Sultan of Brunei. He ruled this country for a long time as the Rajah of Sarawak, his nephew succeeding to the position in 1868. The population of Sarawak is estimated at 500,000 Malays, Dyaks, Jayans, Kenyahs, Muruts, with Chinese and other settlers.

923. The Straits Settlements, a British colony which comprises Singapore, Penang, and Malacca, on the Strait of Malacca, has for a badge a red diamond with three crowns on a three-armed field of white.

924. Labuan, which was formerly the smallest colony in the British Empire, being about the size of the Isle of Wight, but which has since been incorporated in the Straits Settlements colony, has a badge which shows a brigantine sailing past a very high rock, beyond which is rising a golden sun.

925. The badge of Ceylon, whose authentic history goes back to the 5th century B. C., when an invasion of Hindus from northern India established the Sinhalese dynasty, has a pagoda, in front of which is an elephant. The background is blue and the foreground green, surrounded by a diamond-studded border of red and gold.

926. Hongkong's badge shows a harbor scene in which appear a junk and a tea clipper. Hongkong is a Chinese city, now under British sovereignty, and possessed of a naval base of first magnitude.

927. Weihaiwei, a British holding on the Chinese coast, is represented by a badge upon which appear two mandarin ducks on the banks of a stream.

928. The motto of Mauritius proclaims it, "The star and the key of the Indian Seas." On its badge, which is a quartered shield, azure and gold, appear the symbolical key and star and a galley. The supporters are a red and white dodo on the dexter side and a red and white antelope on the sinister. Each of the supporters has a stalk of sugar cane in front of it. Mauritius is an island in the Indian Ocean, 500 miles from Madagascar, having about 720 square miles of territory and about 377,000 inhabitants.

929. Seychelles and its dependencies consist of ninety islands and islets, with a total estimated area of 156 square miles, lying along the coast of Africa. They are represented on its badge by a tall palm tree, with a smaller tree near by and a turtle at its foot, and the motto *Finis coronat opus.*

930. The ensign of the Federated Malay States is one of the comparatively few ensigns of the world that use black. The field consists of four horizontal stripes, white at the top, then red, yellow, and black in order. Upon the center is an oval of white bearing a running tiger. The Federated Malay States are Perak, Selangor, Negri-Sembilan, and Pahang. They occupy a large portion of the Malay peninsula and are under British protection.

931. The jack of the Federated Malay States has a unique design. It preserves the colors of the Malay States ensign, but uses them as triangles instead of stripes. The red triangle has its base on the staff; the black triangle, its base on the fly; the base of the white triangle is at the upper edge, and that of the yellow at the bottom. The apexes of the triangles meet in the center of the flag.

932. The ensign of Pahang, one of the four Federated Malay States, has a field the upper half of which is white and the lower half black. Pahang has 14,000 square miles of territory and a population of 118,000.

933. The ensign of Negri-Sembilan, one of the four Federated Malay States, consists of a yellow field, with a union bearing two triangles, one of which, its base resting on the staff, is black, and the other, its base resting on the yellow field, is red.

934. Perak, also a Federated Malay State, has an ensign consisting of three horizontal stripes, the upper white, the lower black, and the middle yellow.

935. The ensign of Selangor is yellow and red and is quartered. The first quarter is red and bears the star and crescent of the Mohammedan world; the second quarter is yellow, the third yellow, and the fourth red. Selangor is about the size of Delaware and has a population of 300,000.

936-945 (inclusive). These are the flags of the Malay States not included in the Federation. They are all under British protection. The relations of Johore with Great Britain are defined by a treaty dated December 11, 1885, amended by agreement on May 12, 1914, in which the Sultan agreed to accept and to act upon the advice of a British officer called the general adviser. The rights of suzerainty, protection, administration, and control of the other four States were transferred from Siam to Great Britain by the Anglo-Siamese treaty of March 10, 1909. The State of Kelantan, on the east coast of the peninsula, with an area of 5,870 square miles and a population approximating 300,000, is represented by 936 and 937, ensign and merchant flags respectively. There are only four post-offices in the entire State. The flag of Johore (938) is black, with a red union bearing the star and crescent of the Mohammedan religion. The flag of the Sultan of Johore (939) is white, bearing a crescent and star in blue, the star being nine-pointed. Perlis flies a yellow and black flag (940), the upper half yellow and the lower black. The Rajah of Perlis flies a yellow flag (941), with a shield inclosed within a wreath. The flag of Kedah (942) is red, with a green crescent and a shield half surrounded by a wreath. That of the Sultan of Kedah (943) is yellow, with a green shield, a red crescent, and a green wreath. The Regent of Kedah flies a green flag (944), bearing a yellow shield, crescent, and wreath. Trengganu has a flag (945) the staff third of which is white and the remainder black.

946. The Governor General of India flies the familiar union jack, with the star of India, crowned, at the intersection of the crosses.

947. The badge of India consists of a five-pointed star inclosed within a garter and surrounded by golden rays, as a sunflower. Above is the crown of the Empire.

948. The Indian marine flies the blue ensign of Great Britain, with the star of India in the fly.

949. The jack of the Indian marine is the union jack on a field of blue.

950. The flag of the local Indian maritime government is the blue ensign of Britain, bearing on the fly a golden lion, rampant, carrying in its forepaws the crown of Empire.

951. The flag of the Conservators of Bombay has seven horizontal red stripes separated by thin white stripes. The central red stripe forms with a perpendicular bar the red cross of St. George, on which is centered the seal of the Conservators, consisting of two small escutcheons leaning together on a field of white and having a crown above them.

952. The flag of the Trustees of Bombay, a body which has in charge the light-houses and other shipping activities on the Bombay coast, has a blue cross placed on the field corresponding to the red cross of St. George. This cross quarters the field, the first quarter bearing a light-house, the light represented by rays of red, and the other three quarters bear shipping scenes along the coast.

953. The Witu forest lies within the protectorate of British East Africa. Its flag is a red field upon which is centered a union jack, about half as long and half as wide as the field itself.

954. British ascendency in Egypt dates from the 18th of December, 1914, when the government of the Empire deposed the reigning Khedive, on the ground that he had adhered to the King's enemies. The British protectorate has been recognized by France. The new Egyptian flag of red has three white crescents, with the horns toward the fly, and each containing a five-pointed white star. This flag was the personal standard of the Khedive and now takes the place of the former national flag, which was distinguished from the Turkish by having a star of five instead of six points.

955. The flag of British East Africa is the national banner of the Empire, bearing upon the intersection of the crosses a red lion, rampant, or aggressively walking forward on his hind legs. A passant lion, as shown in 917, is one walking ahead on all fours, with right paw uplifted; encircled by a wreath.

956. Armed vessels of the British East Africa Company carry the blue ensign of Britain, with the red lion of East Africa on the fly.

957. The East Africa merchant flag is of the familiar red ensign type, with the red lion, rampant, in a white disk on the fly.

958. The Somaliland Protectorate in East Africa has an area of about 68,000 square miles; its population is about 300,000, mostly nomadic, almost entirely Mohammedan. The badge of the protectorate bears the head and shoulders of a Kudu, one of the antelopes of that region.

959. The Nyassaland Protectorate, which was formerly known as British Central Africa, with an area of 39,000 square miles and a population of 1,100,000, has a badge which shows a tree on a diagonal yellow, white, and black background.

960. Nigeria, with approximately 336,000 square miles, an area as large as New England and Texas together, has a population of about 17,000,000. In 1900 a proclamation was issued which, without abolishing domestic slavery, declared all children born after January 1, 1900, free; it also forbade the removal of domestic slaves for sale or transfer. The badge of this protectorate has a red field, upon which are imposed two interlocked triangles in the form of a six-pointed star. In the center is the crown of the British Empire.

961, 962, 963. An elephant in front of a palm tree, with mountains in the background, forms the device of the badge of West Africa, with the initials "G" for Gambia, "S. L." for Sierra Leone, and "G. C." for Gold Coast, making the badge representative of each of the subdivisions of West Africa.

964. St. Helena has a badge which shows an Indian merchantman on a green sea, steering between two high cliffs. St. George's cross on the ensign of the ship is reminiscent of days long ago.

965. The Governor General of the Union of South Africa flies the national flag of the British Empire, with the coat-of-arms of South Africa in the center.

966. The badge of the Union of South Africa consists of a shield quartered and showing the figure of Hope for Cape Colony, two gnus for Natal, an orange tree for the Orange Free State, and a trek wagon for the Transvaal. The gnus and the orange tree are on gold, and Hope and the wagon on red and green respectively. The crest is a lion and the supporters antelopes; the motto, "In union there is strength."

967. The Union of South Africa has as its official flag the blue ensign of Great Britain, with the coat-of-arms, as described in 966, on the fly.

968. The merchant flag of the Union of South Africa, which is made up of Cape Colony, Natal, Transvaal, and Orange Free State, is the red ensign of Britain, bearing the Union's coat-of-arms in a white disk on the fly.

969. The badge of the Cape of Good Hope shows a shield bearing on red a golden lion, rampant, and supported by a gnu and an antelope. On a scroll below the shield is "Good Hope" in Latin.

970. The badge of Natal shows two gnus, the odd-looking African antelopes, with the imperial crown above. The export of gnu hides is an important industry in Natal, and the number of these animals has been greatly reduced by hunting.

971. The Orange River Colony, before it became the Orange Free State of the Union, had on its badge a springbok in alert attitude.

972. Before the formation of the South African Union the badge of the Transvaal showed a lion, couchant, resting on the veldt.

973. Rhodesia's badge has a blue field, with a golden lion grasping an elephant's tusk in its right paw. The name of this colony, as well as the letters B. S. A. C. appearing below its device, recalls the means by which this region was secured and developed for Great Britain, namely, Cecil Rhodes' British South Africa Company.

974. The High Commissioner of South Africa has as his badge a blue disk with the initials S. A. H. C. and a crown above.

975. This shows the wreath used around the badges of the colonial possessions when imposed upon the union jack, at the intersection of the crosses, to betoken the presence of the colonial representative on the ship flying it. There are a few notable exceptions—the wreath around Canada's badge is not the regulation laurel, but is made of maple leaves (see 869); that around New Zealand's badge consists of two fern leaves (see 901); the Union of South Africa has a wreath of mimosa (see 966), while India's star is circled by the garter which in turn is surrounded by the blazing rays of a sun (see 947). When the badges are used on the blue and red ensigns they are not surrounded by wreaths, except in the case of the blazing sun of India.

976. The badge of military officers afloat, as, for instance, when crossing the English Channel, or when going to the Saloniki front, has a blue field, upon which are inscribed in gold the initials "G. R." (George Rex), surmounted by the crown of the Empire.

977-986. These flags are used by the various British officials.

FLAGS OF AUSTRIA-HUNGARY, BULGARIA, GERMANY, AND TURKEY

987. The ensign of Austria-Hungary has three horizontal stripes, red at the top and bottom, with white between. Upon the white stripe are imposed the shield of Austria next the staff and of Hungary next the fly. Above each shield is the crown of its kingdom. The Hungarian crown differs from the Austrian, being that of St. Stephen. The Austrian shield repeats the red, white, red-striped design of the flag, and was the device of the ancient dukes of Austria, dating back to the twelfth century.

988. The merchant flag of Austria-Hungary was introduced in 1869 by a commission appointed to blend the flags of the two countries. As the Hungarian flag is red, white, and green, the blending was accomplished by making the bottom stripe of the Austro-Hungarian ensign one-half green. Thus the half of the merchant flag containing the Hungarian shield preserves the distinctive Hungarian tricolor.

989. The imperial standard of Austria-Hungary consists of a yellow field bordered with small black, red, and white triangles representing flames. It is square and in the center are placed the arms of the Austrian monarchy. These consist of a black double-headed eagle crowned, the double head indicating the former Holy Roman Empire. Over the eagle appears the crown of Austria. In one claw the eagle holds a sword and scepter and in the other an orb. On its breast appears a shield divided equally into three vertical portions. The red lion rampant on a golden ground in the first section represents the House of Hapsburg; the silver section on a red ground stands for Austria; the three eaglets in silver on a red band upon a golden ground are reminiscent of Lorraine. The shield is surrounded by the colors of the Order of the Golden Fleece and of Maria Theresa. On the wings of the eagle are the arms of the eleven provinces. This flag commands a different salute from any other in the world, it is believed. Under Austrian naval usage the Emperor is saluted by twenty-one guns followed by fifteen hurrahs. A minister of state or field marshal gets nineteen guns and eleven hurrahs; a general thirteen guns and seven hurrahs; a commodore eleven guns and three hurrahs, while ambassadors, archbishops, consuls, and others all have their definite share of gunpowder and requisite allotment of shouting.

990. The royal standard of Bulgaria is a square red flag bordered with black and green triangles, upon which is emblazoned the royal lion of the coat-of-arms of the country. On the body of the lion is a shield having a blue field bearing a series of diagonal and horizontal lines.

991. The ensign of Bulgaria is white at the top, red at the bottom, and green between. In a canton appears the golden lion rampant of the Bulgarian arms, upon red. The lion is crowned.

992. Bulgaria's merchant flag is of white, green, and red, white at the top and red at the bottom.

993. Germany's imperial standard has a cross, black with white border, the field being yellow, and the intersection of the cross bearing a shield containing the arms of Prussia surmounted by a crown and surrounded by the collar of the Order of the Black Eagle. The yellow field of the flag is diapered over in each corner with three black eagles and the crown. The arms of the cross reach out to the four edges of the flag and bear the legend, "Gott Mit Uns, 1870," the date commemorating the origin of this standard.

994. The standard of the King of Prussia very closely resembles the imperial standard, except that the field of the flag is red instead of yellow. The cross which this flag and the preceding one bear is the cross of the Teutonic order and dates from the close of the twelfth century.

995. The ensign of the German Empire has a white field, upon which is imposed a large black cross, having at its center a circle in black outlines containing the black Prussian eagle crowned. The arms of the cross quarter the flag. In the canton there is the merchant flag in miniature, upon which is superimposed the black cross of the Teutonic order (994).

996. The merchant flag of Germany, consisting of three bars, black at the top, white in the middle, and red at the bottom, dates from 1867. In that year it was decreed that the flag of the North German Confederacy should be black, white, and red, and when the twelve southern States joined the federation the same flag was continued as the merchant symbol of the Empire. Prior to 1867 no German national flag had ever flown upon the ocean, each of the various States and free cities having its own special colors (see also 1153, 1154, 1166, etc.). In a speech delivered that year the Minister of the Crown stated that the combination of colors was emblematic of a junction of the black and white Prussian flag with the red and white ensign of the Hanseatic League.

997. The standard of the King of Bavaria has a field of blue and white lozenges, upon which is centered the coat-of-arms of the kingdom. This bears a quartered shield with a golden lion, crowned, on a field of black, representing the Rhine Palatinate in the first quarter; the second quarter is red and silver for the Duchy of Franconia; the third quarter has eight stripes of silver and red crossed by a pale of gold, for the Margravate of Burgau; the fourth quarter has a blue lion rampant, crowned with gold, for the County of Veldentz. Upon all is a fusiform of striped silver and blue, which represents Bavaria. Above this

device is the royal crown, supported by two lions regardant, each of them gold crowned. The whole is upon a royal mantle, which, in its turn, is crowned.

998. The standard of the King of Saxony reproduces part of the heraldic device found in the arms of the ruling family, namely, a green crown of rue cutting diagonally across ten alternate black and gold bars.

999. The flags of the maritime States of Germany are black, white, and red, black at the top and red at the bottom, with an anchor and crown in the center, where the white stripe is swelled out to accommodate them, and with the badge of the respective States, 1003-1008, inclusive, as a canton in the upper corner next the staff.

1000. The imperial marine flag is like those of the maritime States, except that the badge is omitted.

1001. The standard of the King of Wurttemburg is yellow with three half horns of a stag in black, antlered. In each of the four corners of the standard is a crown.

1002. The Grandduchy of Hesse has a standard consisting of three horizontal stripes, red at the top and bottom and white between, with the white stripe larger than the others. Upon the white stripe is a blue shield charged with a lion having a forked tail and striped with red and white. The standard has a crown in each of its four corners.

1003. This badge, with its black eagle, placed as a canton on the flag of the German maritime States, proclaims that the ship flying it belongs to Prussia.

1004. The badge of the free city of Bremen is red and bears an antique key of silver. It is crowned with gold.

1005. Placed in the canton of the flag of the maritime States of Germany, this badge proclaims the authority of Oldenburg. On it is a shield the first quarter of which, made up of red and yellow stripes, represent Oldenburg; the second quarter, a gold cross on blue, represents Delmenhorst; the third quarter, a golden cross surmounted by a miter on blue, represents Lubeck; the fourth quarter is checky, of four rows of red and white, and proclaims Birkenfeld. In the point of the shield is a golden lion, representing Jever.

1006. The badge of Hamburg is a red square upon which is placed a castle having three silver towers, over an anchor.

1007. Mecklenburg's badge has a yellow field upon which appears the head of a black buffalo with red mouth, white horns, and golden crown.

1008. The badge of Lubeck has a black double eagle displayed, its tongue, beak, and claws red, and its breast charged with an escutcheon halved in white and red.

1009. When the flag of the imperial marine of Germany omits the golden anchor and crown from the middle stripe of white and substitutes the crowned black eagle of the Empire, it proclaims that the building or vessel displaying it is under the jurisdiction of the Foreign Office.

1010. When the flag of the imperial marine has this badge substituted for the anchor and crown, it means that the ship or building displaying it is under the jurisdiction of the other departments of the German Government.

1011. This badge, in place of the anchor and crown on the flag of the imperial marine of Germany, transforms it into the flag of the postal service of the Empire.

1012. Merchant vessels in the naval reserve of Germany bear the black, white, and red flag of the German merchant marine, with the black cross on the end next the staff.

1013. The landes flag of Prussia consists of a white field bordered at the top and bottom with black and bearing on the half next the staff the displayed black eagle of Prussia.

1014. The flag of the German Governors of East Africa and Kiao-Chau was the merchant flag with the eagle of the Empire on the central white stripe. The former colony has now been practically conquered by British forces and the Japanese have taken charge of Kiao-Chau.

1015. The flag of the commander-in-chief of the naval forces of Germany has a square white field occupied by the black cross, with guns arranged in the form of a saltire thereon.

1016. The flag of the inspector general of the German navy has a red-bordered white field with the black cross quartering the white.

1017. The ensign and merchant flag of Turkey consists of a red field upon which is imposed a white crescent moon and a five-pointed star. The Turks adopted this device when they captured Constantinople in 1463. It originally was the symbol of Diana, who was the patroness of Byzantium. When the Turks adopted the crescent as a badge of triumph it promptly fell into disuse in the western world, and they secured a complete monopoly upon it. Though originally a pagan symbol, it remained throughout the rise and development of the Greek Church a special mark of Constantinople. Even to this day in Moscow and other Russian cities the crescent and the cross may be seen combined on the churches, the object being to indicate the Byzantine origin of the Orthodox Church. The origin of this quarter moon dates from the time of Emperor Philip, the father of Alexander the Great. While he was trying to take the city he set his soldiers to work on a dark night to undermine the walls, but the crescent moon appeared in time to reveal the design to the people and Philip was thwarted. In acknowledgment the Byzantines erected a statue to Diana and made the crescent moon the symbol of their city.

1018. The personal flag of the Sultan of Turkey, which corresponds to the royal standards of other monarchies, or the President's flag in our own country, is scarlet and bears in the center a device which changes with each succession to the throne. This device, according to tradition, originated in the fourteenth century, when Sultan Murad, being unable to write his name on a treaty, dipped his open hand in ink and pressed it on the document. In the spaces of the figure thus made the scribes wrote his name, the title Khan, and the epithet "Ever Victorious." Now, the name of the reigning sovereign, within the same figure, appears on the flag, surrounded by a rayed halo of somewhat starlike form.

1019. The chief of the staff of the German navy flies a flag of white fully quartered by a black cross, upon whose intersection is imposed a disk of white, a circle of gold rope, and a sword.

1020. The flotilla flag of the German navy consists of a swallow-tailed pennant, hung free from the flagstaff and bearing the black cross.

1021. The Sultan of Turkey flies a different flag afloat from that which is borne for him ashore. As commander-in-chief of the Turkish naval forces he has a red banner upon which is centered a white anchor with a blazing sun in the center of each quarter of the flag.

1022. The religious flag of Turkey is green instead of the familiar red of the ensign and merchant banner. It bears the usual crescent and star in white and is the banner that is borne upon all religious occasions. It has been under this banner that untold thousands of Christians in the Mohammedan world have suffered at the hands of the followers of Islam.

1023. The customs banner of Turkey is of the same general design as the national ensign, except that the star and crescent are inclosed in a rectangle made of a thin white stripe close to and parallel with the border.

1024. The flag of Crete is quartered by a white cross. The first quarter is red and bears a five-pointed star in white, while the other three quarters are blue. This was the flag of the high commissioner appointed by Great Britain, Russia, France, and Italy, and later proposed by Greece with the permission of the Powers, who governed the island before its annexation to Greece.

HEROIC FLAGS OF THE MIDDLE AGES

The Geography of the Earth as Known in Medieval Times Symbolized in 96 Historic Standards

(Ncs. 1025-1120)

THE earliest representation of the flags of all nations is to be found in an illuminated manuscript of a Franciscan friar, a native of Spain, who was born in 1305 and who, according to his own claim, wrote his monumental "Book of the Knowledge of All the Kingdoms, Countries, and Lordships that there are in the World and of the Ensigns and Arms of Each Country and Lordship; also of the Kings and Lords Who Govern Them," after having visited all the places which he describes.

Geographers and historians hesitate to accept the friar's claim as literally true, but it is evident that he was a great traveler and a close observer, and though he is prone to weave legend and hearsay into his narrative, there is, nevertheless, a remarkable fund of information in this priceless manuscript, written a century and a half before Columbus discovered America, and which now reposes in the Biblioteca Nacional at Madrid.

ARTIST AS WELL AS TRAVELER

The manuscript of the anonymous Franciscan whose travels extended as far east as Java, by way of Mecca, was edited by the Spanish scholar Marcos Jimenez de la Espada, 40 years ago, with the aid of Don Francisco Coello, the eminent geographer. It was recently published in English, together with the flags (see page 371), by the Hakluyt Society.

The devices are very beautiful and rich, both in color and in design, the Franciscan evincing great skill in reproducing in some instances the banners and in others the coats-of-arms of the kingdoms and principalities which he visited.

The story of these flags of the world 570 years ago and of the kings and countries over which they waved is best told in the words of the Franciscan himself, who makes no attempt to differentiate between what he actually saw and what he heard (the numbers in the text refer to the corresponding flag on page 371).

"In the name of God the Father and Son and Holy Ghost, three individual persons in one essence. I was born in the Kingdom of Castile, in the reign of the very noble King Don Sancho, when the era of the world, according to the Hebrews, was 5,065 years, and the era of the deluge 4,407 years, and of Nebuchadnezzar of Chaldea 2,502 years, and of Alexander the Great of Macedonia 1,617, and of Cæsar, Emperor of Rome, 1,343, and of Christ 1,304 years, and of the Arabs 706, on the 11th day of the month of September.

"There are in the Kingdom of Castile 28 cities and many other towns, castles, and villages. Know that this Kingdom of Castile and Leon has all the seacoast of the west as far as Bayona the greater, and borders on Navarre and Aragon and Granada. The ensigns of the kings of this kingdom are a flag with two castles and two lions quarterly (**1025**).

"I departed from the Kingdom of Castile and went to the Kingdom of Portugal, where I found four large cities, and three great rivers flow across it. This kingdom borders on the western sea and the Kingdom of Castile and Leon. The arms of this kingdom are castles all round and *quinas* (shields with five white circles, representing the five wounds of the Saviour) in the middle **(1026)**.

"I went to Bayona (Bayonne the greater, which is in Gascony. It is seated on the western sea, near the Pyrenean Mountains (Pyrenees). The Lord of this Bayona has for his flag white with a cross red" **(1027)**.

At the time of the Franciscan's visit Bayonne was under the King of England, and the flag was therefore the St. George's cross (830), adopted by Richard Cœur de Lion during the Third Crusade.

"I left Bayona and entered Navarre, a very rich kingdom, in which there are three great cities. Three great rivers flow through it. The king of it has for a sign the flag as follows" **(1028)**.

At the battle of Las Navas de Tolosa, in 1212, Sancho, King of Navarre, and his knights broke the chain which defended the approach to the tent of "En-Nasir," the Almohade Sultan. The victory which followed resulted in laying all Mohammedan Spain at the feet of the Christians. From that time the kings of Navarre bore the chain on their coat-of-arms and on their flag.

"I departed from Navarre and crossed the Pyrenees. On the left side of these mountains is the noble city of Tolosa (Toulouse), where the liberal arts are studied, and the lord of this Tolosa has for his sign a red flag with a cross of gold **(1029)**.

"I left Tolosa and turned along the coast of the country of Burdeo (Bordeaux), and then to Rochela (La Rochelle), a rich city of France, and thence I went to the point of Sanmae, which is in the province of Bretanea (Brittany); thence to the Gulf of Samalo (St. Malo), and thence to the province of Normandia (Normandy). All these are in the Kingdom of Francia (France), where there are many cities, towns, and villages. Know that the Kingdom of France borders on the Mediterranean, where there is a city called Narbonne, and on the Alps of Alsace and on the coasts of Flanders, and all the coasts of Gascuena (Gascony) to the Pyrenees. The King of France has three fleurs de lys of gold **(1030)**.

"I left Paris and went to Roan and Chalon, and thence to a city on the coast which they call Diepa (Dieppe), and I left it and reached a rich city called Cales (Calais), which is in the province of Picardy. Know that from this Cales to the island of England is a short crossing of eight miles (leagues ?). I departed from Cales and went to the country of Flanders, to a noble city, Brujas (Bruges). The lord of that country has a flag—gold with a black lion **(1031)**.

"Thence I crossed a great river which they call Rinus (the Rhine), which passes by Colona (Cologne), a great city of Germany. In this city they say that the three Magian kings are interred who worshiped Jesus Christ in Belem (Bethlehem). But when I traveled in the Empire of Cataya (China) I was in a city called Solin (Saba?), and they showed me three highly revered monuments, and they were in honor of the three Magian kings who adored Jesus Christ, and they said that they were natives of that city. In this Germany there are some very high mountains which they call the German Alps. . . . The Emperor of Germany has for his device a flag—yellow with a black eagle crowned **(1032)**.

"I departed from Colona and went to a city called Colanda (Holland), in the Kingdom of Frisia. I then passed over a great river, Albia (Elbe), rising in the mountains of Boemia (Bohemia). Here the German Sea forms the great Gulf of Frisia, and in that gulf there are four islands. The King of Frisia's device is a flag—gold with three long black lions **(1033)**.

"In the Kingdom of Boemia there are seven great cities, the largest called Praga (Prague), where they crown the King of Boemia. This Praga is all surrounded by a lofty range which they call the Mountains of Boemia. In the middle there is a great plateau and in its center is the city, surrounded by a great river called Albia. The King of Boemia has for his device a flag—white with a red lion crowned **(1034)**.

"I left Boemia and went to the province of Sant Nurio (Sandomir), and to another the name of which was Curconia (Cracow) and Culman (Culm), which are great provinces between Germany and the greater sea, and though it may be that they are inhabited by Christians, still they are schismatics; and I arrived at two great cities between the greater sea and the Sea of Germany, called Litefama (Livonia) and Catalant (Courland). It is a very populous land and the king of it has for a device a white flag with this sign **(1035)**.

THE VANISHED KINGDOM

"I entered the Kingdom of Polonia (Poland), where there are five great cities, the largest being Santa Maria (Mariempol), where they crown the kings. The King of Polonia has for his design a green flag with this sign in red **(1036)**.

"I left the Kingdom of Polonia and went to the Kingdom of Leon, which the Germans call Lumbrec (Lemberg), in which there are five great cities. It must be known that this Kingdom of Leon (Galicia) borders on the province of Rumenia (Livonia) and with the Kingdom of Suava (Swabia). The king has a green flag with a red cross **(1037)**.

"After this I turned to the other coast of the German Sea (Baltic), to the part of the Trasmontana, being the land of Europe I will mention further on. I entered a great province they call Suevia (Sweden) and found the city of Roderin (Roggerwick), very rich and populous, though the land is very cold. It has in it nine cities. The King of this Suevia has for his device a yellow flag with two red lions facing each other" **(1038)**.

A few years before the visit of the Franciscan the first union between Norway and Sweden had taken place under the three-year-old king, Magnus, who, however, lost both kingdoms before his death.

"I left the city of Roderin and, going on board a ship, I passed to an island they called Gotlandia, which is in the German Gulf, and on this island there is a great city called Bisuy (Wisby), in which there are 90 parishes, and the island is well peopled. There is a smaller island called Oxilia. The king of these islands has a flag of gold and purple bars" **(1039)**.

It was in the century preceding the Franciscan's visit that the wealth of the city of Wisby, or Bisuy, as he called it, became proverbial, and an old ballad relates that "the Gotlanders weigh gold with 20-pound weights and play with the choicest gems. The pigs eat out of silver troughs and the women spin with gold distaffs. A few years after the friar's visit Wisby was attacked by the King of Denmark, who after a bloody battle, in which 1,800 peasants fell trying to defend the gates of the city, took possession of the whole island.

"I ascended the lofty mountains of Noruega (Norway), which is a very strong kingdom containing three great cities. They call the largest Regis (Bergen), where they crown the kings. And be it known that this Noruega toward the north is uninhabited, and that the year makes one day for six months and another six months' night, and there are men who have their heads fixed on their breasts with no neck whatever, but I did not see them. The king of this Noruega has for his device a flag—gold with a black lion **(1040)**.

"I departed from Noruega in a ship of the English, and we shaped a course west and came to an island, very large, called Salanda, which is at the entrance of the Gulf of Frisia, already mentioned. The island of Salanda (Zeeland) is very populous and has four great cities, called Salandi (Copenhagen), Risent (Ringsted), Escondin (Stor Hedding), Alenda (Lealand). The king of this island has for his device a flag—gold with a black lion, as in Noruega **(1040)**.

"I left the island of Salanda (Zeeland) and we made a long voyage, arriving at another island called Tille (Telemarken, in the south of Norway), and from thence we came to the island of Escocia (Scotland) and found in it three great cities—one called Donfres (Dumfries), another Eneruic (Edinburgh), another Veruic (Berwick). The king of this Escocia has for his device a red flag with three long lions of gold" **(1041)**.

The explanation for the Franciscan's confusion of the arms of England with those of Scotland is quite simple. His visit took place during the reign of David Bruce, who married an English princess, and he probably saw her arms on a flag in Scotland and assumed it to be the device of the reigning monarch.

ENGLAND CONTAINED "ELEVEN GREAT CITIES"

"I departed from the land of Escocia and came to the Kingdom of Inglaterra (England). Know that it is a very well populated country and that it contains eleven great cities. The largest, where they crown their king, is called Londres (London). The king of those lands has for his arms, on a flag quarterly, in two quarters, fleurs de lys, gold on a field azure, because the king is of the house of France, and in the other two quarters, in each one, on a field gules (red), three ounces gold" **(1042)**.

The "ounces" which the friar depicts in his device for the English king, it will be observed, are almost identical with the "long lions" which he erroneously credited to Scotland **(1041)**.

"I left Inglaterra in a boat and reached the island of Irlanda (Ireland), which is a short crossing of a mile (!). They say that formerly it was called Ibernia. In this island there is a great lake, and they say that the lake brings good fortune, because many enchantments were made on its bank in ancient times. The king of this island has the same arms as the King of Inglaterra **(1042)**.

"Being in Irlanda, I sailed in a ship bound for Spain, and went with those on that ship on the high sea for so long that we arrived at the island of Eterns (Faroe Islands), and another called Artania (Orkneys), and another called Citilant (Shetland Islands), and another called Ibernia (Iceland). All these islands are in a part where the sun (never?) sets in the month of June and they are all peopled. In Ibernia there are trees and the fruit that they bear are very fat birds. These birds are very good eating, whether boiled or roasted. The men in this island are very long lived, some living 200 years. They are born and brought up in a way which makes them unable to die in the islands, so that when they become very weak they are taken away and die presently.

"In this island there are no snakes nor vipers, nor toads, nor flies, nor spiders, nor any other venomous things, and the women are very beautiful, though very simple. It is a land where there is not as much bread as you may want, but a great abundance of meat and milk. The king of this island has for his device the same flag as the King of Noruega **(1040)**.

"After this I departed from the island of Ibernia in a ship, and voyaged so far over the western sea that we sighted Cape Finisterre and arrived at Pontevedra, in the province of Galicia (Spain). Thence I went to a town in the Kingdom of Castile, as I mentioned before, which they call Tarifa. It was founded by a very powerful Arab named Tarif. Near this town Albuacen, king of all the land of the west, was defeated and conquered by the very noble king, Don Alfonso of Castile, who pillaged all his tents and took his treasures, his women, and his horses." (This was the battle of Salado, in which the King of Castile, Alfonso XI, defeated Abu-l-hasan Ali, King of Morocco, on October 28, 1340.)

"I departed from Tarifa and went to the city of Aljezira (Algeciras), where is the rock of Gibraltar, being places in the dominions of the King of Castile.

"I went to Malaga, a very luxurious city of the Kingdom of Granada. In this kingdom there are three cities. The grandest, where they crown the kings, is Granada. This kingdom is bounded by the Mediterranean and the Kingdom of Castile. The device of this king is a red flag with Arabic letters of gold, such as Mahomad, their prophet, bore" **(1043)**.

The friar made an altogether excusable error in copying the Arabic inscription, which should read, "No conqueror but God."

"I departed from the Kingdom of Granada

and went to the Kingdom of Aragon, a very rich and well supplied kingdom. I found five great cities in it. The chief one, where the kings are crowned, is Zaragosa (Saragossa). It is bounded by Navarre, Castile, France, and the Pyrenees. The king has for his device nine pales gules and or" **(1044).** (Nine strokes red and gold.)

There is a picturesque legend concerning the adoption of this device. Far back in history an heiress of Aragon married the Count of Barcelona, and the gold shield of the latter was adopted by the kingdom. After a battle, however, Raymond Berenger, Count of Barcelona, wiped his bloody fingers down the shield and thereafter it became "or with five pales gules"—gold with five red strokes.

"I left Barcelona and went along the coast to the country of Ampuria, and thence to the city of Narbona (Narbonne), which is by the shore of the Mediterranean Sea. The lord of it has a white flag with a red cross like that of Tolosa **(1029),** and in each quarter a sign like this **(1045),** for this city belonged to Raymondo Conde de Tolosa. . . .

"I ascended the mountains and down to Genoua (Genoa), a very rich city on the shores of the Mediterranean Sea. The lord of it has for his device a white flag with a red cross, and with the word 'Justicia'" **(1046).**

It was about the time of the Franciscan's visit that Genoa elected its first doge, Simone Boccanera, 15 years after whose death, in 1363, the republic city engaged in one of its many disastrous wars with Venice, during which the Genoese galleys reached the very threshold of their rival in the Adriatic and could have dictated a most advantageous peace had they not boasted that they would "bit and bridle the horses of Saint Mark."

"I departed from Genoua and entered Lombardy, where there are many great and rich cities. I left Lombardy and came to Pisa, a land very fertile with a temperate climate. It has a flag gules (red)" **(1047).**

Pisa had reached the zenith of its power during the century preceding the friar's visit. Its red flag had been banished from Corsica by the Genoese in 1300, and 23 years later the kings of Aragon supplanted it with their own over Sardinia.

"Leaving Pisa, I came to Tuscany, in which there is a city called Florence. The lord of it has for his device a white flag with a red cross. I went from Tuscany to the noble city of Rome, which is the head of the empire of the Romans. The devices of Rome are a red flag with a gold bar, on which are letters" **(1048).** (S. P. Q. R.—Senatus Populusque Romanus—the Roman Senate and People.)

TRANSPLANTED LILIES OF FRANCE

"I left Rome and arrived at Naples, a very luxurious, well supplied, and pleasant land, in which are the provinces of Pulla (Apulia) and Calabria. There are many rich cities. The King of Naples has for his device a purple flag with gold fleurs de lys, for he is of the house of France. Above is a red slip which they call a label (1049).

"I departed from Naples and went over to the island of Sicily, a short passage. It is very luxurious and well supplied. There are in it eight large cities. This Sicily has a flag parted per saltire (the field divided into four parts by two lines), two quarters argent (silver or white), with eagles sable, the other two bars gules and or, for the king is of the House of Aragon **(1050).** . . .

"I went to the city of *Venecia,* which is at the head of the gulf on the sea. The lord of this *Venice* has for his flag—argent, a winged lion gules like the lion of St. Mark" **(1051).**

The friar omits the words "Pax tibi, Marce, Evangelista meus" ("Peace be with thee, Marcus, my evangelist"), which are supposed to be inscribed on the open book or scroll held by the lion.

"I departed from Venecia in the same galley and coasted along the side of Esclavonia (Croatia-Slavonia), passing by a city called Aquylea (Aquilea), and another called Triesa (Trieste). The king of this Esclavonia has for his device a yellow flag in halves; the red half near the hoist has a white star and the other half is yellow **(1052).**

"In the Kingdom of Esclavonia there is a very high mountain called Boxina (Bosnia), where four rivers rise. All these rivers enter the Kingdom of Ungria (Hungary) and unite with the great river Danube, which rises in the Alps of Germany. Now this land of Boxina (Bosnia) marches with Germany and Ungria, and the mountains are in its center, and they are mountains well peopled, with a well supplied land; but they are not Catholic Christians, and the king of these mountains has the same arms as those of the King of Esclavonia **(1053).**

"I departed from Boxina and went along the coast to the city of Jara (Zara), thence to Sinbochon (Sebenico in Dalmatia), and thence to Narent (in Dalmatia, at the mouth of the Narenta) **(1054).**

"With this Narent there marches a city called Dulcecno (Dulcigno), which, with the adjacent mountainous country, is very pleasant and well supplied. In these mountains two very great rivers rise—one called Dranoya (the Drave), the other Pirus (Epirus or Drina)—which flow into the Kingdom of Ungria, falling into the great river Danube and forming in Ungria ten islands. They call the first Ungria La Mayor, whence the Kingdom of Ungria took its name.

"Know that in this Ungria there are many rich cities. The Kingdom of Ungria (Hungary) marches with Greece and Germany, Esclavonia, Bolonia (Bologna), and Burgaria (Bulgaria). The flag of this kingdom is parted per fess (that is, in two equal parts), upper half with fleurs de lys of France, because the king is of the House of France (Louis I of Hungary, 1342-1382, came, in the male line, from Charles of Anjou, brother of St. Louis), the lower half bars gules and argent **(1055).**

"I departed from the Kingdom of *Hungary* and went along the coast to a city called Durazo (Durazzo). There I took ship and proceeded to the island of the Morea (the Peloponnesus, the peninsula portion of the mainland of Greece). In it there are seven great cities **(1056** and **1057).**

"I left the island of the Morea and went to the island of Rodas (Rhodes). This island belongs to the order of St. John" **(1058).**

The Knights of the Order of the Hospital of St. John of Jerusalem, afterward known as the Knights of Rhodes and the Sovereign Order of the Knights of Malta, came into existence in Jerusalem during the First Crusade. After its expulsion from the Holy Land at the fall of the Latin Kingdom, the order was established in Rhodes in 1309, where it was holding sway at the time of the friar's visit and where it remained until 1522.

"I left the island of Rhodes and went to the island of Candia (Crete), and thence to another island they call Negropont (Eubœa), which the Venetians conquered. I left the entrance to the greater sea and Constantinople, which I will describe further on, to my left, and went to the city they call Satalia (Adalia), of Greek Christians. This Satalia is part of the province of Naturi (Anatolia). The King of this Satalia has for his device a flag with bars wavy argent and purpure and over all the sign of Solomon's seal" **(1059).**

Adalia, known in ancient times as Attalia, played a conspicuous part in the history of the eastern Mediterranean during the Middle Ages. It was from this port that Louis VII sailed for Syria in 1148, and it was the assembling point for Richard Cœur de Lion's descent upon Cyprus during the Third Crusade.

THE RICH LAND OF TURKEY

"The city of Satalia and others as far as the lesser Armenia are all in the province of Turquia (Turkey), which was called, in ancient times, Asia Minor. In it there are many lordships and provinces which it would be hard to enumerate, for this Turquia extends to the greater sea, and be it known that it is a very rich land, well supplied with all goods. The king of this province has this flag for his device **(1060).**

"I went along the coast of this Turquia to a city called Corincho (Kongos). The king of this land has a black flag with five white crosses **(1061).**

"I departed from Corincho and went to the city they call Feradelfia, or Feradelfin (Philadelphia), which marches on that of Troy, which in ancient times King Menelaus of Greece destroyed. Troy was the head of all that Asia Minor which they now call Turquia, and its device is a flag half white, with a red cross, the other half yellow, with a red square **(1063).**

"In this Turquia there is another province they call Cunio (Iconium, modern Konia), in which there is a rich city called Cunyo, with much territory, and the king has a flag with bars wavy argent and gules" **(1064)** (silver and red).

Following its conquest by the Seljuk Turks in the eleventh century, Konia became one of the most brilliant cities of the medieval world. Many splendid mosques, palaces, and tombs adorned the place, which was surrounded by a wall two miles in circumference. Beyond the city proper spread the gardens and villas of a numerous suburban population. From the splendor of the city sprang the Turkish proverb, "See all the world, but see Konia."

"There is also another province called Sauasto (Sebastia, or Siwas), anciently Sausco, from a city of that name which was the head of all the cities. This city of Sauasco was the ancient Samaria, though now it is Sauasco, head of the kingdom, with a white flag having five red crosses **(1064).**

In the time of the Franciscan Siwas, known in ancient times as Megalopolis-Sebastia, was enjoying its second period of prosperity, having been rebuilt by the great Sultan Ala-ed-din Kaikobad I. Fifty years after the friar wrote his "Knowledge of the World," Siwas' flag was trampled in the dust by the implacably cruel Tamerlane, who buried alive 4,000 of its inhabitants.

"I entered Armenia the Less, which is all surrounded by very high mountains, and within the mountains there is a plain country in which there are 360 towns and villages and castles."

This reference should not be confused with the Armenia of today. The Franciscan is referring to a small principality founded in 1080, which gradually grew until it became the independent kingdom of Lesser Armenia. It was a Christian State set in the midst of Moslem principalities and gave valuable assistance to the Crusaders, although it was hostile to the Byzantine rulers. It had a tempestuous existence extending over a period of about three centuries.

"On the shores of the Mediterranean Sea, in the place where it ends, you must know that anciently this Armenia was called the island of Colcos; for in this Armenia an arm of the sea enters in which there is a small island called Porto Bonel (in the Gulf of Alexandretta, or Iskanderun), and here was the temple to the enchanted golden sheep which bewitched Jason the Greek.

"After this Armenia is the island of Chipre (Cyprus), and in this Chipre there are four great cities. The King of Chipre has for his design a flag parted per pale argent five crosses gules and purpure (purple), two fleurs de lys palewise, because he is of the House of France" (Armenia the Less, **1065,** and Cyprus, **1066).**

At the close of the twelfth century the reigning prince of Cyprus provoked the wrath of Richard Cœur de Lion by ill-treating the Crusaders. The English monarch thereupon captured the island and sold it to the Knights Templar, who in turn sold it to the French crusader, Guy de Lusignan, titular King of Jerusalem. It was Hugh IV, one of the ablest of the Lusignan dynasty, who was governing Cyprus at the time of the friar's visit. This was the sovereign to whom Boccaccio dedicated one of his works and who brought about an alliance with the Pope, with Venice, and the Hospitallers, which resulted in the capture of Smyrna, in 1344.

After visiting many of the cities of Syria and Palestine, including Jaffa, Acre, Cæsarea, and Ascalon, the friar says of Jerusalem:

"Know that in this Suria (Syria) is the city of Iherusalem, which was sanctified by the holy temple of Salamon (Solomon), built there, and was consecrated by the blood of Ihesu Christo. This land was anciently called Cananea after Canaan, son of Noe (Noah). Afterward it had the name of Judea after Juda, son of Jaco

(Jacob). Know that this province was taken by the French when they made the conquests beyond seas. The device of this province is a white flag with red crosses, like this" **(1067).**

Sir Clements Markham, vice-president of the Hakluyt Society and translator of the Franciscan's Book of Knowledge, notes that there was no authority for these five crosses gules in the arms of Jerusalem. The correct arms were metal on metal; argent a cross potent or (gold) between four lesser crosses or.

"Suria marches with the land of Jafet (Japhet), and this Jafet borders the very rich city of Damasco (Damascus), well supplied with all things. Near this Damasco flows the river Eufrates. The king has a yellow flag with a white moon **(1068).**

"Egipto (Egypt) borders on Suria. I came along the coast to a port called La Risa (the Port of Risa). And I took the road to the west and came to Damiata (Damietta), a noble city surrounded by the river Nilus (Nile). Know that here the King of France was defeated and a prisoner when he went to make conquest beyond sea (Louis IX, defeated at Massura, near Damietta, in 1250). On the banks of this river Nilus is situated the great city Alcaira (Cairo), where the kings of Egipto are crowned. The device of this kingdom is a white flag with a blue moon **(1069).**

THE HIDING PLACE OF THE ROSETTA STONE

"I left Alcaira and went to the coast where is the city of Alexandria, which is noble and rich. From this Alexandria to the isle of Roxeta the distance is ten leagues, all peopled with villages. (Rosetta is the Egyptian town made famous for all time by the discovery near here of the "Rosetta Stone" in 1799, the inscribed block of basaltic rock which unlocked the secrets of hieroglyphic writing.) The king of this Alexandria has for his device a yellow flag and in the middle a black wheel in which is a gray lion **(1070).**

"I departed from Alexandria and went by the coast to a city called Luchon (Lucha), where the king has a yellow flag with a white moon **(1071).**

"Leaving Luchon I came to Mon de Barcas (Barca) and Bona Andrea (Apolonia), which is in Berberia (Barbary), and thence to Tolometa (Ptolemais), on the seashore. The king has for a device a white flag with a yellow sash on a lance **(1072).**

"From Tolometa I came to Puerto Magro (the mouth of the river Magra, ancient Cyniphus), and thence to Tripul (Tripoli), of Berberia. It is called Tripul because it is bounded by the Triplicana Mountains. This Tripul is a rich city and the king of it has for his device a white flag with a green palm tree and two red keys **(1073 and 1074).**

"I went from Tripul to Rahasa (Ras Majabes), Capiz (Gabes), and Faquiz (Alfaques), and thence to Africa (Mahdia, in Tunisia), a rich city. Know that 26 miles from this Africa is a great tower called Ligem, and from this tower to Alcairahuan (Kairowan) there are 40 miles. At this Alcairahuan the king of all Africa toward the west, named Albohacem (Abu-l-hasan Ali), was defeated and all his tents were pillaged. The King of Africa has for his device a white flag with a purple moon" **(1075).**

The Franciscan's mention of the battle between Abu-l-hasan Ali and Ahmed, near Kairowan, which occurred in 1348, is of special interest, as it is the latest date mentioned by the chronicler. The friar probably did not visit Kairowan, for with the exception of Mecca and Medina it is the most sacred of cities in the eyes of Mohammedans, and up to the time of the French occupation, in 1881, no Christian was permitted to pass through its gates without a special permit from the bey.)

"I went thence to Cucia (Susa, in Tunisia, built on the site of the Roman Hadrumetum), and thence to Tunez (Tunis), which is a great and rich city, well supplied with all things, and is the head of all Berberia (Barbary). The flag of the king is white with a black moon **(1076).**

"I went to Bona (old name, Hippo), where St. Augustine was bishop. It is a rich city. The king of it has a white flag with a black moon (like Tunis—**1076).** I departed from Bona and went to the city of Constantina (Constantine), which is all surrounded by a river. The king has a flag parted per fess white and yellow **(1078).**

"I left Constantina and arrived at Bugia (Bougie). It is a very strong and ancient city. The king has for his device a red flag with a yellow cross-bow" **(1080).**

AN EARLY SIGNALING DEVICE

Long before the Franciscan's visit to Bougie it had become the greatest commercial center on the North African coast and had attained a high degree of civilization. There is evidence that the heliograph was used here for signaling from special towers as early as the middle of the eleventh century. During the century following the visit of the friar it became the stronghold of the Barbary pirates.

"I went from Bugia to Arguer (Algiers), thence to Brischan (Bresia), a city on the seacoast. The king of it has a white flag with a sign like this **(1082).**

"I departed from Brischan and went to the island of Mayorcas (Majorca), in which there is a noble, rich, and well supplied city. The king has for his device a flag with bars vert (green) and sable" **(1077).**

The colors which the Franciscan ascribes to the Kingdom of Majorca constitute internal proof that he visited the country prior to 1375, for in that year the island was annexed by the King of Aragon and its flag, of course, assumed a red-and-gold hue (see **1044).**

"I entered Numedia as far as the river of Muluya until I arrived at the strong city of Cepta (Ceuta). Know that Cepta is opposite to Algezira (Algeciras) and Gibraltar, places of the King of Spain. The gulf of the sea, called the strait of Azocaque (Strait of Gibraltar), passes between Cepta and Gibraltar. The king of this city has for his design a red flag with two white keys **(1079.)**

"I departed from Cepta and went to the noble city of Fez, where the kings of the Bena Marin (kings of the lineage of Beni Merin) always reside. At Fez their kings are crowned and reside and they have a flag all white **(1081)**.

"Thence I went to Nife (Anafi?) and Azamor. Know that in this province is the very noble city of Marruecos, which used to be called Cartagu the Great (Carthage, a mistake in which the traveler confuses Morocco with Tunis). A consul of Rome named Scipio Africanus conquered it in the time of the sovereignty of the Romans. Afterwards the Goths, who were the lords of Spain, were the sovereigns here. The King of Marruecos has for his device a red flag with a chess-board black and white **(1083)**.

"I climbed the mountains of Cucia La-Alta (western Atlas), which is a country well supplied with everything. These mountains are very high and it is a most dangerous land, for there are not more than two very perilous passes. The king has for his device a flag—white with a black lion" **(1084)**.

The friar's next objectives were various points along the West African coast as far as the Senegal River, traveling always in a "panfilo"—a galley used in the Mediterranean during the Middle Ages, equipped with two masts for sails and one row of oars. He next visited many of the islands in the Canary and Madeira groups. Returning to the mainland, he joined a party of Moors who were crossing the Sahara with gold for the King of Guinea. He continues:

"We came to some very great and high mountains in the middle of the Zahara (Sahara), and afterward we traveled a very great distance over the desert until we came to another mountain (oasis?) called Infurent (Zefran). Here I parted from these Moors and joined some others. I then went to Sulgumenca (the ancient town of Segelmessa, now Tafilet), a rich city in the Zahara, near a river which comes from the clear mountains. The king of it has for his device a white flag with the root of a green palm tree, in this manner **(1085)**.

"I went with some Moors over the Zahara until we arrived at Tocoron (Tamagrut, on the river Dra), which is a city among some mountains. The inhabitants are negroes, and the King of Tocoron has for his device a white flag with a black mountain in the middle, like that of the King of Guynoa (Guinea) **(1086)**.

"Thence I went to Tibalbert (Tibelbelt, south of the Atlas), a city on some very high mountains; thence to another mountain, which is under the King of Guynoa (Guinea), and thence to Buda, a well-supplied city, also on the top of a mountain. Know that the city was peopled by a king of Tremecen; for he was bad and did evil things and the people wanted to kill him. So he fled, with his treasure, to this place and founded this city of Buda (an oasis south of Atlas). Its flag is white with a red moon **(1087)**.

"Afterwards I departed from Buda and went by the Zahara to another mountain called Ganahe (Ghana), in which there is a rich, well-supplied city of the same name. It is the head of the kingdom, where they crown the kings. And the King of Guynoa (Guinea) has a gold flag with a black mountain in the middle **(1088)**.

GOLD-MINING ANTS AS BIG AS CATS

"Of Guynoa there is much to say. It contains seven mountains well peopled and land yielding abundantly as long as there are mountains; elsewhere it is all Zahara. Two ranges of mountains extend to the Rio Del Oro (Senegal River), and there they collect the ivory teeth and the gold in the ant-hills which the ants make on the river banks. The ants are as big as cats and dig out much earth. This kingdom marches with the Kingdom of Organa (a kingdom on the upper Senegal), in which also there is much desert. Organa is the head of the kingdom, where the king is crowned. The King of Organa has for his device a white flag with a green palm tree and two keys **(1089)**.

"I traveled for a very long distance on camels, until I arrived at the kingdom they call Tremecen (Tremizen, or Telensin, which extended along the Barbary coast between Melilla and the present seaport of Bougie), which borders on the river Nilus (Nile). They live always at war with the Christians of Nubia and Etiopia (Ethiopia). There are in this kingdom five large places inhabited by negroes. Know that these inhabitants of this kingdom of Tremecen peopled it from Berberia (Barbary). The king has for his device a purple flag with a white moon **(1090)**.

"Thence I went to another kingdom called Dongola (west of Nubia), marching with the deserts of Egipto (Egypt) and the river Nilus. It is a country well peopled with Christians from Nubia, but they are negroes. It is a rich land and very well supplied and with many fruit trees. The land has a very hot climate. The King of Dongola has for his device a white flag with a cross like this" **(1091)**.

After revisiting Cairo in company with some Genoese merchants whom he met in Dongola, the Franciscan journeyed to Damieta (Damietta), where he embarked for Ceuta. He disembarked and journeyed through Morocco, crossed the Atlas Mountains, where he met some Moorish traders and embarked with them on a galley for another cruise down the west shore of Africa. After leaving the mouth of the Senegal River "we went on for a very long distance," continues the friar, "always keeping in sight of the coast, leaving behind us the Islas Perdidas (the Atlantic Islands), and came to an island inhabited by many people.

"They call this island Gropis (Galpis, of the Bissagos group, off the coast of Portuguese Guinea). It is a well-supplied island, but the people are idolaters. They took us all before their king, and wondered much at us and our language and customs. The merchants who armed the galley made much profit. The king's device is a white flag with the figure of his idol" **(1092 and 1093)**.

The Franciscan now left the Moors and journeyed to towns in the Soudan and Senegambia. He marvels at the gold, the ambergris, and the ivory which come from this torrid region, and declares that the Mountains of the Moon, also called the Mountains of Gold, are supposed to be the highest in the world, and that the five largest rivers in the world have their sources in these lofty regions. He gives no picture of the flag of this kingdom, which he calls Gotonie, and designates as "one of the largest in the world," but describes the device as "some yellow sashes on a spear." His narrative continues:

"I departed from this Kingdom of Gotonie (Soudan and Senegambia) and arrived at a gulf connected with the sea, and in the gulf there are three islands. I crossed this gulf until I came to a great city called Amenuan (Miniana and Amina, regions north of the Kong Mountains). It is a very great and populous kingdom, with a land supplying all that is good, but the people are heathens and believe in idols. The kingdom contains eight great cities, one of which is Amenuan, in which the king always resides and is crowned. The king has a white flag with an idol **(1094)**.

"In this Kingdom of Emenuan there enters a branch of the river Eufrates (Niger—the friar does not confuse this with the Mesopotamian Euphrates, but assumes two rivers with the same name). This river forms three branches, one entering the middle of the Kingdom of Amenuan and the other branches flowing round the whole kingdom, the width in some places being two days' journey. When I crossed this great river I first made a long journey along its banks, which are very populous (referring evidently to the river Benue, a tributary of the Niger).

A MYTHICAL MONARCH

"I came to a great city called Graciona, which is the head of the Empire of Ardeselib, a word meaning 'Servant of the Cross.' The Ardeselib is defender of the Church of Nubia and Ethiopia, and he defends Preste Juan (Prester John), who is Patriarch of Nubia and Abyssinia."

Prester John, to whom the Franciscan refers, was a mythical Christian potentate, whose name appears many times in the chronicles of the Middle Ages, and he is endowed with many attributes of greatness, wisdom, and magic. Originally he was supposed to be a monarch of Asia, his capital being somewhere in India. During the fourteenth century, however, the mythical Prester John's domain was transferred to Africa, and he then became the Christian king of Abyssinia.

"Preste Juan rules over very great lands and many cities of Christians. But they are negroes as to their skins and burn the sign of the cross with fire in recognition of baptism. But although these men are negroes they are still men of intelligence, with good brains, and they have understanding and knowledge. Their land is well supplied with all good things, and excellent water of that which comes from the Antarctic Pole, where, it is said, is the earthly paradise. They told me that the Genoese whose galley was wrecked at Amenuan and who were saved were brought here. It was never known what became of the other galley which escaped. The Emperor of Abdeselib has for his device a white flag with a black cross like this" **(1095)**.

The friar's reference to the Genoese galley relates to the voyage of Vadino and Guido de Vivaldo, navigators who set sail in 1821 in an attempt to reach India. One of them reached a city in Ethiopia called Menam, where the crew was imprisoned and none ever returned.

"I departed from Graciona and traveled over many lands and through many cities, arriving at the city of Malsa (Melee, or Melli?), where the Preste Johan (Prester John) always resides.

"This is a well-peopled and well-supplied land. From the time I came to Malsa I heard and saw marvelous things every day. I inquired what the terrestrial paradise was like, and wise men told me that it consisted of mountains so high that they came near to the circuit of the moon. No man has been able to see it all, for of twenty men who went not more than three ever saw it, and that they had never heard tell of any man who had ascended the mountains.

"They further told me that these mountains were surrounded by very deep seas, and that from the water of those seas come four rivers which are the largest in the world."

Perhaps this is a vague reference, based on hearsay, to those noble lakes which constitute the reservoirs of the Nile and Congo basins—Albert Edward, Tanganyika, Nyassa, and Victoria Nyanza. It was not until centuries later that these lakes were definitely located. In fact, Victoria Nyanza, which, next to Lake Superior, is the largest fresh-water lake in the world, was not discovered until 1858, by J. H. Speke, while seeking the source of the Nile.

"The waters which descend by these rivers make so great a noise that it can be heard at a distance of two days' journey. All the men who live near it are deaf and cannot hear each other, owing to the great noise of the waters.

"In all time the sun in those mountains is there day and night, either on one side or the other. This is because half those mountains are over the horizon and the other half are over the horizon, so that on the top of the mountains it is never either cold nor dark, nor hot nor dry, nor moist, but an equable temperature. All things, whether animal or vegetable, can never decay nor die.

"They told me many other secrets of the stars both as regards judgments and magical virtues; also concerning herbs, plants, and minerals, and I saw several marvelous things. The Greeks call this place Ortodoxis, and the Jews Ganheden, and the Latins Paraiso Terrenal, because there is always a good temperature. The device of Preste Johan is a white flag with a black cross **(1096)**. I departed from Malsa and took an eastern route."

The Franciscan was the first writer to locate the mysterious Prester John in Abyssinia.

"I went for a very long distance, meeting with people of many beliefs and with strange manners and customs which it would take long to describe, until I came to a gulf of the Sea of India which enters into the land fifty days' journey. In this gulf there are three very large islands, called Zanzibar (probably an error of the copyist for Acibar), Alcubil (Kuria Muria), and Aden (peninsula), which is the largest and the most populous. It lies against Arabia, and here the Red Sea begins, and penetrates the land westward forty days' journey. On its shores are many cities, towns, and villages.

A RED RED SEA

"When the ships come from India they arrive at Aden and pay a tithe of their merchandise, because between the island Aden and the point of Aden there is a rich city. Then there is a very narrow place to pass, and a ship then enters the Red Sea and discharges its cargo at a city they call Sacam (Suakin), belonging to the King of Caldea.

"This Red Sea is so called because the bottom consists of red ochre which makes the water red. By this sea the Jews passed when they went forth from the Egyptian captivity of Faraon the King (Pharaoh). Presently I entered Caldea, which is all surrounded by two very great rivers, rising in the mountains of Toro (Taurus). One is called Cur (a mistake for Tigris) and the other called Eufrates, but not the one of Nubia. Both these rivers reach the Indian Sea in the gulf they call the Black Sea (Persian Gulf). This Caldea is a rich, populous, and well-supplied land.

"Know that in this province is the Tower of Babel, which the giants built in the center of a great plain, the Agra de Senabar (Shinar), and here was the great city of Bauilonia (Babylon), which is now destroyed, of which the lord was Nabucodonusor (Nebuchadnezzar).

"I crossed an arm of the Eufrates and entered the province of Baldaque (Bagdad), in which there is a great city which they call Bandacho (Bagdad), and Nabucodonusor (Nebuchadnezzar) was king of these provinces. I departed from Bandacho and went to Mesopotamia. I left Mesopotamia and went to a city where the river Cur (Tigris) forms a great island called Ansera, in which island there is a great city. Beyond this river is the site of the city of Niniue (Nineveh), which was destroyed for its sins. Know that this region contains very extensive lands, many cities and villages, and is all encircled by the two great rivers called Eufrates and Cur (Tigris). From the borders of the Red Sea to the shores of the Persian Gulf as far as Aquysio (Kishm) we cannot give different devices because Caldea and Baldaque are all in one lordship and it is all one region.

"I crossed the river Cur (Tigris) and made a very long journey until I came to Arabia, traversing a great extent of land and arriving at the city of Al Medina (Medina), where Mahomat was born. Thence I went to Mechan (Mecca), where is the law and testament of Mahomat in an iron chest and in a house of calamita stone. For this reason it is in the air, neither ascending nor descending. Know that this Mechan is the head of the empire of the Arabs. Its device is a red flag and on it Arabic letters in gold (1097).

"I departed from Mecha and traveled over the Kingdom of Arabia onwards until I arrived at a very large city they called Fadal (Fartak), on the shores of the Sea of India. I remained there sometime and then went on board a ship and passed a very large and well-peopled island called Sicocra (Socotra). There is in it a very large city also called Sicocra, under the rule of the King of Arabia. This same island the ships touch coming from India laden with spices. It has a red flag with Arabic letters (1098).

THE WEALTH OF INDIA

"I then traveled with some merchants for a very great distance and arrived at a kingdom of Delini (Delhi), belonging to the kings of India. It contains extensive lands, very rich and populous. The cities I came to were nine. Know that in this Kingdom of Lini (Delhi) the pepper and ginger and aloe ripen, and many other spices, of which there are great harvests, which are taken over all the world. They call this province India the sandy (Sind and Rajputana), and the color of the people is black. They use Turkish bows. They are a wise people, with good memories, and learned in all kinds of knowledge. The device of the king is a white flag with a gold pale (1099).

"I departed from the Kingdom of Dilini and entered that of Viguy (Bijaya-nagar), which is on the other coast of the Indian Sea. Beyond this kingdom there is an island in the Indian Sea called Sagela (Ceylon), in which there is a great and rich city. In this island there are workings whence gold, silver, and other metals and very large rubies come; others smaller. This kingdom marches with the Empire of Armalec (Bengal), with the Kingdom of Linj and with the Indian Sea.

"Know that this Indian Sea is a branch which joins to the great eastern sea. Some say that it covers all the world up to the western sea. Wise men say that as far as the Antarctic Pole there is a great land forming a tenth part of the whole earth. The learned call this land Trapouana (Sumatra), marching with the island of Java and extending to the westward along an arm of the great sea which surrounds the whole earth and of which the Indian Sea is part.

"Know that in the islands of Java and Trapouana there are 45 extensive regions, the greater part desolate, owing to the great heat of the sun. But in the inhabited parts they gather much pepper and many other spices. Here are the great griffins and the great cockatrices. The king has for his device a white flag with a gold wand.

"Afterwards I departed from the Kingdom of Viguy and passed over a gulf of the Indian Sea, which they call the Gulf of Bengala (Bengal), because on its shore is a great city called Bengala, of the Empire of Armelec, and it is the capital of the kingdom. I passed thence to the Kingdom of Oxanap (Burma?), which is on the shore of the Indian Sea. Along the shores of Oxanap the sea is green; it is an arm of the Indian Sea between this Oxanap and the island of Java. The King of Oxanap has for his device a white flag with a pale of gold (similar to Delhi—1099).

"I departed from Oxanap, went on board a ship with some merchants, and sailed over the green sea until we came to the island of Java, a very great island in the Indian Sea about 40 days' journey in length. The island is very populous, but there are no cities, because all the people live in the country and gather spices, pepper, and odoriferous gums. It is a very hot land. The people are black and they adore the Emperor of Cathay (China), whose image they have on their flags **(1100)**.

"On leaving Java I returned to Oxanap and took the way to the Kingdom of Armalec, whose device is a white flag with a pale of gold (similar to Delhi—**1099**). I departed from the Empire of Armalec and traveled by land for a great distance over a well-peopled country, with flocks, but no cities nor towns, because all the inhabitants live in the country.

TO THE END OF THE EARTH

"At last I arrived in the Empire of Catayo (China), where all the cities are on the shores of the eastern sea, which joins with the Sea of India. This sea of the east is full of reefs and islands, and to the eastward there is no news of any lands, only waters, as in the western sea.

"Know that Catayo (China) is the end of the earth in the line of Spain. This empire is irrigated by three great rivers, which rise in the Montes Caspios (Himalaya Mountains) and are led off into many parts. They call the largest of these rivers Magot (Hoang-Ho), for it rises near the castle of Magot (the Great Wall), which is one of the gates of encircled Tartaria (Tartary). They call this emperor Gosman Imperator Morroy, and Grand Can, Lord of the East. His device is a gold flag and in the middle an emperor seated, in white cloths, with an imperial crown on his head, in one hand a Turkish bow, in the other a golden apple **(1101)**.

"I departed from the Empire of Catayo toward the north, up the course of the river Magot (Hoang-Ho), and traveled for 65 days. I did not find town nor city. The land is entirely inhabited by tribes with flocks. It is all a plain country and has no stones nor trees nor people who eat bread, but only meat and milk. Thence I reached the Montes Caspios (Himalayas) of Magot.

"Know that these mountains are of immeasurably height and surround Tartaria from sea to sea, and there is only one very narrow pass. Here there is a castle built of magnet iron throughout, for nature made it in this manner and it reaches to the clouds. At its foot rises the river Magot. On the other side there is another castle which is as high and built of the same stone, called Got (Gog and Magog, mentioned in Ezekiel xxxviii). The castles are very high on the top, so that ten thousand men can reside in each of them. Between the two are the Iron Gates which shut the entrance to Tartaria.

"Within this Tartaria there are countless tribes who do not observe any of the commandments of God, except that they do no evil one to another. They are very confident and great fighters, both on foot and on horseback, insomuch that Alexander was unable to conquer them or to enter their country by the mountains, for they shut and fastened those iron gates by placing great rocks against them, and they were closed for a long time. Eventually they removed the obstruction, coming out and conquering a great part of the world themselves. From that lineage came all those of the Empire of Catayo.

"From that lineage also came those of the empires of Armalec, Mesopotamia, all the Persians, those of the Empire of Sara (Caspian), as well Turks and Tartars, Saracens and Goths. Some of them turned to the law of Abraham and others turned Moors. The wise men of Tartaria say that when 7,000 years of the era of Adam are completed they will be lords of the whole face of the earth and will make all peoples conform to their law and their freedom. This enclosed Tartaria forms a fourth part of the whole earth.

"In the Empire of Catayo there is a kingdom called Scim (perhaps a kingdom of hearsay), which borders on the Kingdom of Sarmagant (Samarkand), Bocarin (Bokhara), and Trimic (Tibet). The flag of its king is white, with a figure of the sun in the center **(1102)**.

EUROPE'S FIRST ACCOUNT OF TIBET

"The Kingdom of Trimic (Tibet) is all surrounded by mountains, which give rise to many fountains and rivers. Those who are born here have very long lives. They are men of clear understandings and good memories, learned in the sciences and live according to the law. They say that the men who first heard of science and learning were these, and that the Persians heard of those things from them. For this reason they deserve honour above all other men; for others do not equal these in learning or science."

This is the earliest European account of the people of Tibet.

"I departed from Magot, where I had resided for sometime, and traveled with some companions, 25 days' journey to the westward, to the city of Bocarin (Bokhara), where the king always resides. Here I met with merchants who came from Catayo and traveled with us, 35 days' journey, to another city, called Cato, the head of a kingdom with very extensive territory (probably a region bordering on Siberia). But all the people live in the country, except the people of one city where the king lives. These two kingdoms have for a device a yellow flag with many white stars **(1103)**.

"We departed from the Kingdom of Cato and traveled a great distance without finding town nor city, yet the country was inhabited and with many flocks. We came to a mountain which is a spur from the Montes Caspios and extends to the Sea of Sara (Caspian). This mountain is 125 days' journey long.

"We crossed it by a very high pass and again traveled a long distance over a country without cities or towns until we came to a great city called Norgancio (Khiva), in the Empire of Uxbeco (Shah Usbek, who reigned during the first half of the fourteenth century over a vast region stretching from the Dnieper to the Ural Mountains). The King of the Norgancio has for his device a white flag with the sign of Uxbeco Emperor of Sara (on the Caspian) red" **(1104)**.

Journeying westward by way of the Caspian Sea, which he crossed in a ship belonging to Christians, the friar visited Armenia. His recital continues:

"Then I went to see the mountains of Armenia the Greater, where the ark of Noe

(Noah) arrived when it escaped the universal deluge. This mountain is of salt stone as white as crystal. Know that it is one of the highest mountains in the world. No man has been able to ascend it, though attempts have been made many times. These mountains are in the Empire of Persia. All round the country is inhabited by Armenian Christians, who are the guards of the emperor, and he places much trust in them.

"I departed from Armenia and came to the great city of Toris (Tabriz), which is the capital of the Empire of the Persians. It is one of the grandest cities in the world, well supplied, rich, and in a good climate. For this reason the Persians are wise and very well versed in all the sciences. They have learned men with a profound knowledge of the stars. The Emperor of Persia has for his device a yellow flag with a red square in the middle **(1105)**.

"I went over a great part of Persia, going thence to the Kingdom of Saldania and its rich and noble city (Sultanieh?). Its king has for a device a yellow flag with a red square (similar to Persia's—1105).

"I departed from Saldania and went with some merchants a long distance until I came to the city of Ayras (Shiraz), called by the Tartars Sarax, where the Empire of Persia ends. It is a well supplied city, rich and very ancient. They say that in this city was first discovered the astronomy or law of the stars, for this city is in the line of the center of Persia. The cities I have visited in Persia are Casar (Kazan), Serrans, Thesi, Spaor (Ispahan), Jorjaman (Georgia), Spalonero (Razelain), Saldania (Sultanieh), and Toris (Tabriz).

"In this last town is where Besnacayt, the Emperor of Persia, was crowned. His empire extends from the Sea of Sara (Caspian) to the Persian Gulf, where is the city of Hormixio (Ormuz), and from the Mare Mayor (Black Sea) to Aquisio, also on the Persian Gulf. Its length is 125 days' journey and its width from the river Cur to the city of Siras (Sari?) 100 days' journey. Benascayt, Emperor of Persia, assembled a very great host and went to fight with Uxbeco, Emperor of Sara (the Caspian).

"There arrived more than a million and a half of cavalry. Then Benascayt promised some Armenian monks, whom he consulted, that if he won the battle he would become a Christian. The Armenian Christians who came with him marched with a cross before them, and, God helping, he conquered. Uxbeco was defeated and his cavalry pillaged and their women captured. The conqueror advanced far into the enemy's country.

"After this I left Persia with some merchants who came from Catavo (China). Thence we traveled for a great distance without coming to any city, for all the inhabitants lived in the country.

"I came to a city called Tripul of Suria (Syria), which is on the shore of the Mediterranean (not the Tripoli of North Africa, previously mentioned). There I embarked in a ship of Christians and went to Chipre (Cyprus), thence to the Morea, and thence to Creta, Negropont (Eubœa), and a kingdom of Greeks which they call Salonica, bordering on Macedonia, where the great Alexander reigned. The King of Salonica has for his device a red flag with a yellow cross and four chain links **(1106)**.

GALLIPOLI IN AN EARLY CAMPAIGN

"Thence I went to a city called Galipoli, which is on the shore of the gulf between the Mediterranean and the greater sea. By this way the French passed when they conquered Suria. Thence I went along the seacoast to a city they call Recrea (Heraclea), and thence to the city of Constantinople, a rich city, the capital of the empire, where they crown the kings. Here there is a church of God called Santa Sofia, which is very wide, lofty, and beautiful.

"Before it there is a tower of stone which has not been ascended. On the summit of this tower there is placed a knight with his horse of metal. It is very large, and he has on his head an episcopal cap (probably a nimbus or crown). It is in honor of the Emperor Constantine. His right hand is extended toward Turquia, which was formerly called Asia Minor, on the other side of this gulf of the sea. The Emperor of Constantinople has for his device a flag quarterly, first and fourth argent a cross gules, second and third gules a cross, or (gold) between four chain links or **(1107 and 1108)**.

"I left Constantinople and entered the Mare Mayor (Black Sea), proceeding along the coast on the left hand to a great city called Vecina (Vidin). Here nine rivers unite and fall into the Mare Mayor. These nine rivers make a great commotion before this city of Vecina, which is the capital of the kingdom. It has a white flag with four red squares **(1109)**. . . .

"I proceeded along the shores of the eastern side of the Mare Mayor (Black Sea) for a very long distance and arrived in the Kingdom of Sant Estropoli (Sebastopol), which is inhabited by Comanes Christians. Here there are many people who have Jewish descent, but all perform the works of Christians in the sacrifices, more after the Greek than the Latin Church. The king has for his flag—gules a hand argent **(1110)**.

"I left Sant Estropoli and went to Gorgania (Georgia), which is between the Mare Mayor (Black Sea) and the Mar de Sara (Caspian), a very extensive land of the Empire of Uxleto (Uzbeg). I then went along the shore to the city of Trapesonda (Trebizond), where I remained for some time. This empire borders on Turquia, but the people are Greek Christians. The Emperor of Trapesonda has for his device a red flag with a golden two-headed eagle.

"I departed from Trapesonda and arrived at the Kingdom of Semiso (Samsun), a large and populous territory bordering on Turquia and the Mare Mayor. The king has for his device a white flag with a sign like this **(1112)**.

"I came to Feradelfia (Philadelphia) and found a rich and well supplied city. It is in Turquia, anciently called Asia Minor. The king has for his device a flag parted per pale, argent and azure and on a field argent a cross gules **(1113)**.

"I departed from the Kingdom of Feradelfia and went to another kingdom, called Stologo (Hypsili, in Asia Minor), which contains extensive territory near the sea. The king has for his device a red flag charged with a black wheel **(1114)**.

"I left Stologo, traveling by land with some merchants; went across all Turquia and came to the city of Sauasco (Siwas?). Leaving that place I crossed a river, traveled over Jorgania (Georgia) until I arrived at the Sea of Sara, at a city called Deruent (Derbent). I went along the shores of the Sea of Sara (Caspian).

"I entered a great province called Roxia (Russia), in which there is a city called Xorman(?), the capital of the kingdom **(1115** and **1116)**. It is bounded by the great lake of Tanay, which is three days' journey in length and two broad (an imaginary body of water in which most medieval geographers believed). Three very great rivers flow from it. One of these, the Nu (Dwina), bounds a great province called Siccia (Scythia), a very cold country. In this Siccia there is a great city, the capital of the kingdom, called Nogorado (Novgorod). The king has for his device a red flag with a white castle **(1117)**.

"I came to Maxar, a kingdom in which there are three great cities—Casama (Kazan), Lasac (Lechel, in the province of Kazan), and Monscaor (Moscow). This King of Maxar (Orenburg) has for his device a purple flag with white stars **(1118)**.

"From Maxar I went to the Kingdom of Siluana, which they call Septen Castra, and the Greeks call it Horgiml (Transylvania). It is encircled by two great rivers — the Turbo (Dniester) and the Lusim (Dnieper). The king has for his device a green flag with a red scimitar **(1119)**. The people are schismatic Christians.

THE MIDNIGHT SUN

"Ascending the river Tir (Dniester) toward the north, there are two very large provinces called Yrcania and Gotia (northern Russia), whence the Goths came forth who entered Spain. It is called the land of Nogulaus. The people are strong and warlike, but their country is very cold. This Gotia and Yrcania march with the lofty mountains of Trasmontana (mountains of Norway).

"In these mountains the north star is seen in the middle of the heavens, and throughout the year there is daylight for six months and night for six months. It is uninhabited, yet they say that men are met with whose heads come out of their shoulders, having no necks whatever. Their beards are on their breasts. and their ears reach to the shoulders. There are also found in this land very great bears and wild beasts, as I have already related. These two provinces of Yrcania and Gotia were peopled by the Godos, who came from the closed Tartaria, from the castle of Got and Magot (Gog and Magog), when they deliberated on the siege of Alexandre and the conquest of the greater part of the world (device of Yrcania—**1120**).

"I went to Flanders, and from there to Seville, the city from which I first started."

Thus ends the recital of the Franciscan's wanderings.

PENNANTS OF PATRIOTISM 200 YEARS AGO

(Nos. 1123-1197)

PROBABLY John Beaumont, an English author who lived during the last half of the seventeenth century, had never heard of the anonymous Franciscan friar who wrote his "Book of Knowledge" (see page 388) about the year 1350; and yet Beaumont has left to posterity a work on nations and their flags which strangely parallels the book of the Spanish churchman, save that whereas the latter's volume is beautifully hand illumined with the colored coats-of-arms of the nations of earth in his day, the Englishman relies upon somewhat crude black and white copper plates, with the letters R (red), W (white), Y (yellow), etc., chiseled out to indicate the colors.

The flags reproduced on page 371 of this issue of the GEOGRAPHIC have been prepared in colors, in large measure from the black and white drawings which Beaumont included in the third edition of his book, published by John Motte in London in the year 1701. The full title of the work is:

"The Present State of the Universe, or an Account of the Rise, Birth, Names, Matches, Children, and near Allies of all the present Chief Princes of the World. Their Coats of Arms, Mottos, Devices, Liveries, Religions, and Languages. The Names of their Chief Towns, with some Computation of the Houses and Inhabitants. Their Chief Seats of Pleasure, and other Remarkable things in their Dominions. Their Revenues, Power, and Strength. Their respective Styles and Titles, or Appellations. Also An Account of Common-Wealths, relating to the same Heads. The Third edition continu'd and enlarg'd, with the Effigies of all the Crown'd Heads of Europe; as also the various Bearings of their several Ships at Sea."

There are three British ensigns—the white, blue, and red.

To understand the use of the red, the white, and the blue ensign in the British navy, it is necessary to know the organization of the huge fleets of that day. In a fleet there were the center, the van, and the rear.

The admiral of the fleet, with the union flag at the mainmast of his flagship, commanded the vessels of the "center," and they were required to display red ensigns (**1123**), referred to countless times in history as the famous "meteor flag of Old England" on account of its red field and the red cross of St. George. The vice-admiral of the white, with his white flag (**1121**) at the fore of his flagship, commanded the vessels of the van (fore), and they displayed the white ensign (**1124**). The rear-admiral of the blue, with his blue flag (**1122**) at the mizzen of his flagship, commanded the vessels of the rear (mizzen), and they wore the blue ensign (**1125**). So that the ensigns indicated the squadrons, and the colors and the positions (main, fore, and mizzen) of the admirals' flags the ranks of the commanding admirals. This practice was of long standing, and of course came from the English navy, there being practically no Scottish navy. This is all made clear by examination of the admirals' flags, **1121** and **1122**, and the ensigns **1123**, **1124**, and **1125** of the year 1705 (two years before the union of the crosses of St. George and St. Andrew).

At the time of our Revolution the same flags of rank and the same ensigns were in use, but with the union flag of England and Scotland in their cantons. These ensigns continued to have this significance until 1864, when the red ensign disappeared from the place of honor in the British navy, the white ensign (**834**) becoming the exclusive ensign of the navy, the blue ensign (**835**) for public vessels (with a badge in its fly) and naval reserve vessels, and the red ensign (**836**) became the exclusive property of the merchant marine.

The red flag of defiance (**1126**) has for centuries been the symbol of revolution and of mutiny.

Queen Elizabeth chartered the East India Company in 1600. Its flag (**1129**) has peculiar interest for America, as some historians declare that it was the parent banner of our Stars and Stripes. Benjamin Franklin is reputed to have urged its adoption at a dinner which he and Washington attended on December 13, 1775, and at which he is said to have declared: "While the field of your flag must be new in the details of its design, it need not be entirely new in its elements. It is fortunate for us that there is already in use a flag with which the English Government is familiar, and which it has not only recognized but protected. I refer to the flag of the East India Company."

The East India Company's banner at that time was slightly different, however, from the colors shown here (**1129**), for in 1707 the union between England and Scotland took place and the St. George's cross was combined with that of St. Andrew. The East India Company flag vanished from the seas in 1858, when the British Government took over its functions.

The Guinea Company (also a chartered trading organization of England) carried its checkered red and white ensign (**1130**) up and down the West African coast for many years. In 1663 its vessels brought from Guinea the gold from which the first English "guineas" were coined.

The Scottish ensign (**1131**) and Scottish Union flag (**1132**) recall an interesting bit of controversy between the subjects of "South Britain and North Britain," as the English and Scotch were then designated. With the union of the two countries under James I, it became necessary to devise a new flag. A royal ordinance of April 12, 1605, recites the following:

"Whereas some difference hath arisen between our subjects of South and North Britain, traveling by seas, about the bearing of their flags,—for the avoiding of all such contentions hereafter, we have, with the advice of our council, ordered that from henceforth all our subjects of this isle and kingdom of Greater Britain, and the members thereof, shall bear in their maintop the Red Cross, commonly called St. George's Cross (**1127**), and the White Cross, commonly called St. Andrew's Cross (**831**), joined together, according to a form made by our heralds, and sent by us to our admiral to be published to our said subjects; and in their foretop our subjects of South Britain shall wear the Red Cross only, as they were wont, and our subjects of North Britain in their foretop the White Cross only, as they were accustomed" (see also 829).

The Scottish Union flag (**1132**) carries the quarrel a step farther. The Scottish superimposed the white cross on the English red; the English, on their side, superimposed the red cross on the white.

The Irish ensign at the beginning of the eighteenth century (**1133**) bore the cross of St. George in the canton and a gold harp on a green field, thoroughly appropriate for the "Emerald Isle."

HOLLAND'S FIVE FLAGS

In his "Book of the Universe," Beaumont ascribes five flags to Holland at the dawn of the eighteenth century (**1134**, **1135**, **1136**, **1139**, **1140**). Holland became an independent State in 1579, and in 1599 its flag was officially designated as orange, white, and blue, in three horizontal stripes, these being the colors of the great leader, William, Prince of Orange. In some manner never satisfactorily explained (see 377 and 775), the orange became red early in the seventeenth century, and it was under the tricolor (red, white, and blue) that the naval heroes Tromp and De Ruyter fought their many brilliant sea engagements with the English between 1652 and 1654.

Concerning the city of Amsterdam (**1137**) two centuries ago, Beaumont furnishes the following unique description: "Amsterdam is the most considerable city of all Holland; the houses are generally built of brick, and it's built on piles like Venice. As to what proportion of bigness this city bears to London I have no exact account. Amsterdam for riches, trading, shipping, fair streets, and pleasant habitations scarce yields to any other city of the world. The whole town being in a low, marshy ground, the water is let in through all the considerable streets, and it's all built upon piles, or high fir trees, driven down perpendicularly so close together that nothing can be forced betwixt them."

With the exception of Amsterdam, perhaps no other town in Holland had more right to a flag of its own than Flushing **(1138)**, for it was in this seaport that the standard of liberty was first raised after the "Water Beggars" had taken Briel in 1572, the first overt act of the Dutch in their war against Spanish supremacy.

Concerning Genoa, whose red flag **(1141)** was identical with that of the scarlet emblems of Venice and Spain, Beaumont gives this picturesque description at the close of the seventeenth century:

"The State of Genoa is, like that of Venice, govern'd by a Doge or Duke, with this Exception, that the Office of the Duke of Genoa lasts but for three years, whereas the other is for life. He has for his Ordinary Guard five hundred Germans. Controversies between Citizens are adjudg'd by a Court called the Rota, consisting of Lawyers, not Natives of Genoa. They are under the Protection of the King of Spain (hence the identity of the Spanish and Genoese red flag). Genoa was under the Government of several Princes till the year 1528, when Andrew Doria established there the Form of Government observ'd to this day, which is Aristocratical. There is seen in the Town the statue of Andrew Doria, mounted on a Horse of Cast Copper, with this Inscription on the pedestal, Liberator Populi." (It was after this liberator that the brig *Andrew Doria*, the first vessel to obtain a salute for the American flag, was named—see page 295.)

Tradition says that Russia derived its blue, white, and red flag **(1142)** in the following manner: Peter the Great, while learning shipbuilding in Holland, adopted the Dutch ensign **(1136)**, merely reversing the colors. But the Russians were not flattered by this, for it made them appear like "Dutchmen in distress" (the sign of distress being an inverted flag). Subsequently the order was changed to white, blue, and red (the present Russian merchant flag—800), but in 1701 the Czar of Muscovy (Peter) had only added the blue cross in the white stripe to distinguish his flag from the Dutch distress signal.

OSTEND'S BRAVE BANNER

Ostend, the last stronghold of the Dutch in South Netherlands against the Spaniards, well deserved the distinction of a fight standard **(1144)** as well as an ensign **(1143)**. This little fishing village, of scarcely three thousand souls at the beginning of the seventeenth century, withstood one of the most remarkable sieges of history, the chroniclers of that time being amply justified in comparing it to the siege of Troy.

It resisted the Spaniards for three years and seventy-seven days (July 5, 1601, to September 20, 1604), and it is computed that one hundred thousand lives and four million dollars were sacrificed in its reduction. All the engineering skill and resources of the age were employed. Targone, a famous Italian engineer, invented a great floating battery to close the harbor, and a fortress on wheels with a draw-bridge to span water gaps (forerunner of the twentieth century tank cars).

The defenders used great bonfires and hoops of flaming pitch to light the battleground during night attacks. Earthworks were mined and countermined. Red-hot shot were fired into the city. To prevent conflagrations, the garrison covered all the houses with sod. When there was no more earth suitable for the construction of fortifications, the besieged turned to the graveyards, exhuming their heroic dead and using their bodies as ramparts for the living.

When the town finally hauled down its flag it was with the honors of war, granted by Spinola, the chivalrous Genoese commander of the Spanish forces, who gave a splendid banquet to the republican officers in his pavilion.

The Spanish flag **(1145)** is of special interest at this period of history, for it recalls the War of the Spanish Succession, which followed the death of Charles II, in 1700, the last of the Austrian (Hapsburg) dynasty to sit on the throne of Castile and Leon. Beaumont records:

"On the first of November, 1700 N. S. (New Style), died Charles II of Spain, after a long illness, or rather after a diseased life of almost 40 years. In his pretended last will, he is said to have left the Duke of Anjou, second son of the Dauphin of France, his heir and successor to all his dominions, who immediately took upon the title of Philip V, King of Spain, etc.

"But the German Emperor is far from acknowledging him as such." . . .

The coat-of-arms which Beaumont places on the Spanish banner **(1145)** is far from complete, for the King of Spain at the beginning of the eighteenth century bore the insignia of Castile, of Leon, Aragon, Sicily, Granada, Portugal, Algarve, Austria, Ancient Burgundy and Modern Burgundy, Brabant, Flanders, and of Antwerp, capital city of the Holy Empire. Surrounding the large shield may be seen the collar of the Order of the Golden Fleece.

The King of Spain, as one of his minor titles, was known as the Lord of Biscay. The Biscay ensign **(1146)** was a white cross "raguled" on a red field. The raguled cross in heraldry is described as "trunked" or having many cuts, resembling two ragged staffs in the shape of a cross. The Spanish Bourbons used it as their insignia; hence it appeared on the flag of Ostend **(1143)**, a Spanish possession.

The New England ensign **(1147)**, with the pine tree in the first quarter of the St. George's cross, was the first distinctively American flag of the American colonies. It should be remembered that this is an ensign and was used by vessels only (see also 362-364, 379-390). The national flag of the colonies was that of the mother country, the union flag **(361)**.

The French galley standard **(1148)** was of red with numerous fleurs de lys in gold. In the center were the arms of France. Beaumont recites that "the arms of France in the days of Pharamond and his three successors were gules (red) three crowns or (gold). Clovis the Great altered them to azure (blue) strewn with flower-de-luces or, and Charles VI, who came to the crown in 1380, reduced the lilies in his coat-of-arms to three."

White became the national color of France during the Hundred Years War. Later the Huguenot party adopted the white flag, and when Henry III, himself a Protestant, came to the throne, in 1574, it became the royal ensign. In the following reign (Henry IV) it became the symbol of the French Bourbons. Thus the French ensign **(1149)**, a simple white banner, came to be the basis of many of the French flags (see 1150, 1151, 1157, 1158, 1159, 1160, and 1161). The ensign **(1149)** was the flag under which Cartier sailed on his voyage of exploration to Canada, and the emblem which floated from the flagship of Admiral De Grasse, whose victory off Yorktown was a most important factor contributing to the success of the American Revolutionary War (see 422). Joan of Arc bore a white flag with gold embellishments at the Battle of Orleans.

The French cornet **(1159)** is distinctive only in its swallow-tail shape; in modern signaling it is usually called a burgee.

The blue crosses in the banners of Province (Provence) **(1150)**, of Bretagny (Brittany) **(1151)**, and Normandy **(1158)**, and the blue stripes of Picardy **(1161)** recall the fact that from earliest recorded times until the seat of French Government was removed to Paris (when the red of that city's patron, St. Denis, was adopted) blue was a favorite color of the Franks. It was under the plain blue flag known as "Chape de St. Martin" that Clovis won his great victory over Alaric in 507, and Charlemagne bore it at Narbonne. This was supposed to be the original cloak which St. Martin, while stationed at Amiens, divided with a beggar; the following night he had a vision of Christ making known to his angels this act of charity (see also 743).

Marseilles had a white ensign of its own, with a white cross on a blue square in the first quarter **(1160)**.

The Zealand colors **(1152)** are, naturally, those of Holland. On the white bar is the distinctive feature, the red lion of the Zealand (Zeeland) coat-of-arms. In the same manner the flag of Middleburgh **(1156)**, the capital of Zeeland, had the colors of Holland, with its own gold tower in the white band.

The Hanseatic League, the famous federation of North German towns which controlled the commerce of northern Europe during the Middle ages, had for its colors red and white, two of the three colors which survive in the flag of modern Germany **(996)**. The chief city of the federation was Lubeck **(1153)**. Hamburg, also an important city of the league, bore a red flag with a white tower **(1154)**, while Bremen's emblem **(1166)** was a red and white chess-board. Rostock, not content with the league's red and white, added blue **(1167)**, thereby giving her citizens the same occasion as the Russians for complaining that they appeared like "Dutchmen in distress" (see note on the flag of the Tsar of Moscovy—**1142**).

Dantzick (Dantzic) employed the league's red, but placed upon that field three gold crowns, arranged vertically **(1165)**.

The Munich flag **(1164)** had an unfortunate color combination, the yellow frequently fading out, leaving the banner a French white **(1149)**.

Lunenburgh (Luneburg) was one of the most important towns of the Hanseatic League. Its flag **(1174)** included the red field common to Hamburg and Dantzic, but with a winged Pegasus in gold as the distinctive feature.

The flag of Heyligeland (Heligoland) **(1155)** is of especial interest at this time on account of the tremendously important rôle which the scraps of land (it was one island up to 1720, when a violent eruption of the sea severed a neck of sand and made two islets of it) are playing in the present war as an impregnable naval and submarine base for Germany. Heligoland was a fief of the dukes of Schleswig-Holstein in 1705, but the free city of Hamburg frequently held it in pawn for loans advanced to the dukes. In 1807 England obtained it from Denmark, and 27 years ago made the great mistake of ceding it to Germany.

The Swedish man-of-war ensign **(1162)** and Swedish merchant flag **(1163)** 200 years ago were virtually the same as today **(826** and **827)**, with the exception that the blue in the modern standards is of a much lighter shade.

The Genoa ensign **(1168)** is identical with the St. George's jack **(1127)**.

THE MALTESE CROSS

Few flags of history can rival in romantic interest the red banner with its eight-pointed white cross **(1169)**, emblem of the island of Malta. The eight points of this famous Maltese cross are supposed to represent the eight Beatitudes. In their monasteries the Knights of Malta wore black habits with Maltese crosses over their hearts. In war their coat-of-arms was crimson with the white Maltese cross, like the flag.

The flag of Jerusalem **(1170)** at the beginning of the eighteenth century contained the same five crosses which the Franciscan monk pictured in 1350 (see 1067), save that the central cross at the later period quartered the flag, and the "Croisettes," as they are called in French, occupied the four quarters.

Tuhen (Thuin, Belgium) was one of several cities of the low countries whose device at the beginning of the eighteenth century was a white swan **(1171)**.

The Danish man-of-war **(1172)** and merchant flags **(1173)** are the oldest national emblems now in use, their history dating back to the year 1219, when Waldemar is supposed to have seen a cross in the sky while leading his troops against the Livonian pagans. The flag is known as the Dannebrog (Strength of Denmark). On the time-stained walls of the medieval church on the island of Heligoland there is still to be seen a painted Dannebrog.

The city and district of Surat, the green flag of whose Grand Mogul **(1175)** was distinguished by two gold scimitars, was the site of the first factory (trading post) established by England in India, a seed which has developed into a great Eastern Empire.

Bengal's Grand Mogul bore a white flag with a red scimitar **(1176)** two centuries ago. It was at this time that the East India Company purchased from the great grandson of Shah Jahan (builder of the Taj Mahal) the group of Bengal villages which grew into the city of Calcutta.

Now an unimportant fishers' town, Enchysen (Enkhuizen) once well deserved the right to have a flag of its own **(1177)**. Long ago it harbored the fleets of Charles V and Philip II of Spain, when their word was law in all the low countries. Its banner preserved the yellow and red of Aragon.

The flag of Legorne (Leghorn) **(1178)** contains the five red roundels (little circles) peculiar to the arms of the Great Duke of Tuscany, who derived a large share of his revenues from this seaport.

The winged lion of St. Mark **(1179)** is as familiar to students of flags as the eagles of the Roman Empire and the dragon of St. George in British heraldry. It is placed on the Venetian red flag **(1141)** in honor of the patron saint of the republic. St. Mark, while on a missionary journey to Italy, according to a very ancient legend, was stranded on the Rialto when it was still an uninhabited island. Here the future greatness of Venice was revealed to him in a vision. The lion was the commonly accepted symbol of the saint in all early Christian art.

The Pope's colours **(1180)** include the red field (red being the color of the livery of the Holy Father also) with the white cross of Calvary and the white lamb, the significance of which are apparent.

THE BANNER OF SAVOY

The white cross on the red field, device of the House of Savoy **(1181)**, has played an important rôle in the history of Europe. Beaumont gives this account of its adoption by the dukes of Savoy: "This coat was given to Amadeus the Great by the Knights of Rhodes in 1315, with these letters in lieu of a motto, 'F. E. R. T.'—that is, 'Fortitude Ejus Rhodum Tenuit' (His valor has saved Rhodes). The occasion was that Amadeus V, surnamed the Great, forced Mahomet II, Emperor of the Turks, to raise his siege at that time from before the city of Rhodes. The said cross is the cross of St. John of Jerusalem, whose knights at that time were owners of Rhodes."

The Portugal man-of-war **(1182)** and merchant flags **(1183 and 1184)** bore the same distinguishing features—five shields with the five circles representing the five wounds of Christ, the castles surrounding the inner shields and the armillary sphere, reminiscent of that nation's maritime prowess in the sixteenth century, 200 years ago, as they do now (see modern flags 791, 792, and 793).

The broad, deeply notched border, differing in color from the field of the flag, is one of the peculiar characteristics of many Chinese banners (see 1185 and 1186). Tunquin (Tongking or Tonquin) was a place of great interest to geographers 200 years ago. It was described as containing 20,000 cities and towns, "and many more there would be, but that many of the people choose to live on the water than on the land; so that the greatest part of their rivers are covered with boats which serve them instead of houses." Silks, according to the eighteenth century report, were worn in Tonquin by rich and poor alike.

Anchonia's (Ancona) red and white stripes **(1187)** indicate its reliance upon the Pope. The province, with its capital of the same name boasting the finest harbor on the southwest coast of the Adriatic, was a semi-independent republic during the Middle Ages.

Camphen (Kampen) was one of the important members of the Hanseatic League. Its ensign **(1188)** was the simple red field seen in the Hamburg, Luneburg, and Dantzic flags, but without any coat-of-arms or symbol such as distinguished the devices of its sister cities. Today Kampen is a thriving little town in Holland, with a population of about 20,000. Its days of glory were in the fifteenth century.

Its red field charged with a golden crescent, the flag of Tunis **(1189)** was for centuries one of the most important banners of the Mohammedan world. Tunis rose in importance as Carthage declined. It is still the largest city in North Africa, outside of Egypt. It began to blossom following the Arab conquest, and became the chief port for pilgrims from Spain on their way to the sacred city of Kairowan.

Between 1350 and 1705 the flag of Tripoly (Tripoli) underwent a complete change. At the beginning of the eighteenth century its banner of white and green bands **(1190)** was floating over the marine nest of the notorious Tripolitan pirates, the scourge and terror of the Mediterranean. A century later America was to fight its first foreign war against these sea robbers.

Algier (Algiers) **(1191 and 1192)** was also a haunt of Barbary pirates during the sixteenth, seventeenth, and eighteenth centuries. The outlaws of this port were not suppressed completely until 1830, when on the 4th of July of that year a French army under General de Bourmont effected the city's capture.

In the very year that Columbus discovered America a band of Andalusian Moors built the walls of the town of Tituan (Tetuan) **(1193)**, the only open port of Morocco on the Mediterranean Sea. Sallee (Salli), whose red flag **(1194)** is almost identical with that of Tetuan, was once the haunt of the Salli Rovers. It also had another flag of unique design **(1195)**.

The flag of Moco Araba (Mocha, Arabia) **(1196)** was of great importance two centuries ago, for at that time Mocha was one of the greatest coffee ports of the world.

The Christian crosses which adorned Constantinople's flags **(1107 and 1108)** at the time of the visit of the Franciscan friar in 1350 were long since replaced by the crescent of the Mohammedan Turk, as shown in the flag of 1705 **(1197)**.

THE CORRECT DISPLAY OF THE STARS AND STRIPES

WHILE there is no federal law in force pertaining to the manner of displaying, hanging, or saluting the United States flag, or prescribing any ceremonies that should be observed, there are many regulations and usages of national force bearing on the subject.

In raising the flag it should never be rolled up and hoisted to the top of the staff before unfurling. Instead, the fly should be free during the act of hoisting, which should be done quickly. It should be taken in slowly and with dignity. It should not be allowed to touch the ground on shore, or the deck of a ship, nor should it be permitted to trail in the water or in the dust. It should not be hung where it can be contaminated or soiled easily, or draped over chairs or benches for seating purposes, and no object or emblem of any kind should be placed upon it or above it.

A common but regrettable practice at public meetings is to drape the flag like a tablecloth over the speaker's table and then to place on the flag a pitcher of ice water, flowers, books, etc. Another equally careless practice, and, unfortunately, quite common, is to tie small United States flags to the bottom of a stage curtain; when the curtain is raised the flags are lifted aloft and are effectively displayed, but when the curtain is lowered, so that the stage scenes may be shifted, the flags trail in the dust of the stage floor.

The flag should not be festooned over doorways or arches. Always let the flag hang straight. Do not tie it in a bow knot. *Where colors are desired for decorative purposes, use red, white, and blue bunting.*

The flag should not be hoisted upside down, other than as a signal of distress at sea, when it may, if necessary to accentuate the distress and make it easily recognized at a distance, be knotted in the middle of its length, forming what is called a "weft."

International usage forbids the display of the flag of one nation above that of any other with which it is at peace. Such an act is considered an insult in times of peace, and is always followed by a demand for an explanation and apology. When the flags of two or more nations are displayed, they should be on separate staffs, or on separate halyards of equal size and on the same level.

The flag should never be raised or lowered by any mechanical appliance.

When the national colors are passing on parade, or in review, the spectator should, if walking, halt, and if sitting, arise and stand at attention and uncover.

When flags are used in unveiling a statue or monument they should not be allowed to fall to the ground, but should be carried aloft to wave out, forming a distinctive feature during the remainder of the ceremony.

Where the national flag is displayed with State or other flags, it should be given the place of honor on the right. Its use should be confined as much as possible to its display upon the staff. Where used as a banner, the union should fly to the north in streets running east and west, and to the east in streets running north and south.

Old, faded, or worn-out flags should not be used for banners or other secondary purposes.

When no longer fit for display, the flag should be destroyed privately, preferably by burning or other methods lacking the suggestion of irreverence or disrespect.

Over only three buildings in America does the national flag fly officially night and day continuously—over the east and west fronts of the National Capitol and over the adjacent House of Representatives and Senate Office Buildings. The two emblems over the Capitol (storm-flag size) are replaced every six weeks, the wear and tear, due to wind and rain, being excessive.

Over the Senate and House of Representative wings of the Capitol the flags

Photograph by U. S. Navy Department

SENDING AND RECEIVING SEMAPHORE MESSAGES ON THE SIGNAL BRIDGE

Bluejackets are never graduated in the "two R's" of warship education—"readin' and 'ritin'" with flags. The radio and the wireless telephone have accomplished marvels in facilitating communication between the units of a fleet, but the semaphore and the wigwag flag still have their place in the service.

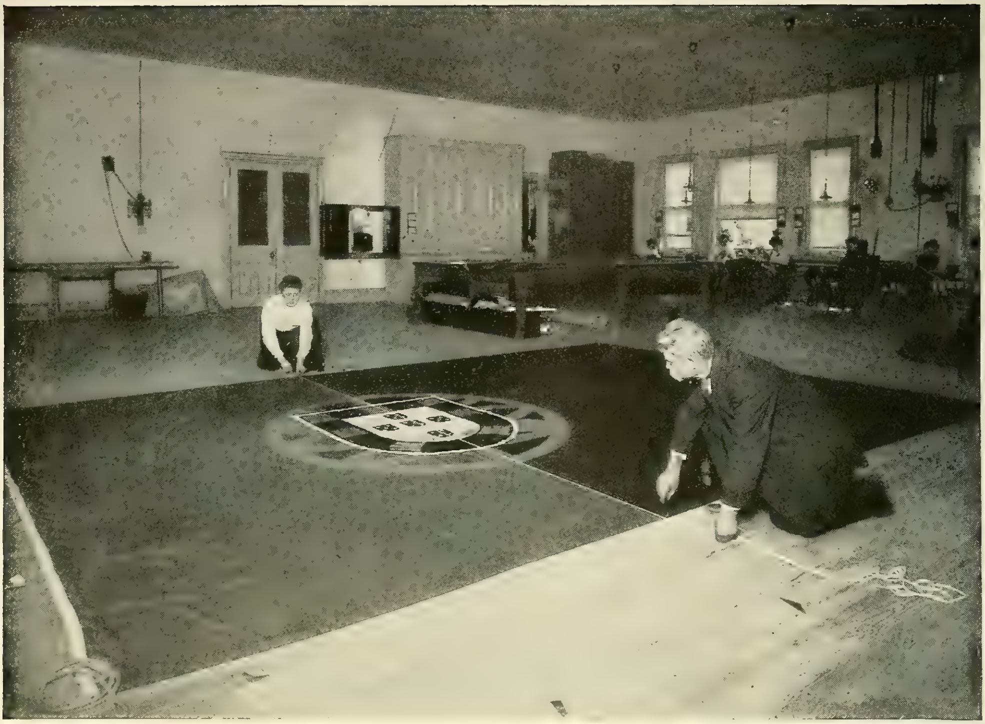
fly only while those bodies are in session and during a recess. At adjournment, either at the end of a day's work or for a session, they are lowered.

When the Stars and Stripes float from the flagstaff of the White House, from sunrise to sunset, it is indicative of the presence in Washington of the President.

An act of Congress passed in 1905 provides that a trade-mark cannot be registered which consists of or comprises "the flag, the coat-of-arms, or other insignia of the United States, or any simulation thereof." An act passed in 1917 provides penalties for the desecration, mutilation, or improper use of the flag within the District of Columbia. The Department of Justice has held that any alien enemy tearing down, mutilating, abusing, or desecrating the United States flag will be regarded as a danger to the public peace or safety within the meaning of the President's proclamation of April 6, 1917, and will be subject to summary arrest and punishment.

At every military post or station it is the practice in the army, each day in the year, to hoist the flag briskly at sunrise, irrespective of the condition of the weather, and to lower it slowly and ceremoniously at sunset, indicating the commencement and cessation of the activities of the day. While the flag is being lowered the band plays the national anthem, which for the army and navy is the "Star Spangled Banner." If there is no band present the field music sounds "To the colors." Officers and enlisted men out of rank face toward the flag, stand at attention, and salute. (For a description of army flags see page 307 and onward.)

A military force is said to be accorded "the honors of war" when, after a specially honorable defense, it has surrendered its post, and is permitted by the terms of capitulation to march out with



Photograph by Brown Brothers

INSURING ACCURACY IN A FACTORY WHERE GOVERNMENT FLAGS ARE MADE

The United States Government uses thousands of flags annually, not only the Stars and Stripes and the various flags and pennants of its own army and navy officers and civilian officials, but the flags of other countries as well. Every warship of our navy carries 43 foreign flags, for ceremonial purposes. The flag-maker in a government ensign factory must test all buntings. Sample lots are soaked and washed with soap in fresh water one day and the next in salt water. They are then exposed to weather for ten days, 30 hours of which must be sunlight. The colors must not fade or "run." The material is also tested for its strength. The flag shown above is the Portugal ensign (791).

colors flying, bands playing, and bayonets fixed. It retains possession of the field artillery, horses, arms, and baggage. The French, Russian, and other governments require that in every case the commander of the place must not surrender until he has destroyed all flags; but this must be done before signing the capitulation. General Stoessel destroyed all Russian flags at Port Arthur.

The Hague rules of land warfare forbid the improper use of the flag of truce, of a national flag, or of the military insignia and uniform of the enemy, as well as the distinctive badges of the Geneva Convention. In practice it has been authorized to make use of the enemy's flag and uniform as a ruse, but not during a combat. Before opening fire these must be discarded. Whether the enemy's flag can be displayed and his uniform worn to effect an advance or to withdraw is not settled.

NAVY CEREMONIES OF RAISING AND LOWERING THE COLORS

Shore stations under the jurisdiction of the Navy Department display the national ensign from eight o'clock in the morning to sunset. The same is true of ships at anchor. Ships coming to anchor or getting under way before or after the regular hours hoist their colors if there be sufficient light for them to be seen. Unless there are good reasons to the contrary, ships display their colors when falling in with other men-of-war or when near land, particularly when passing or approaching forts, lighthouses, or towns.

The ceremonies aboard a ship in commission when the ensign is raised and lowered are most impressive. At morn-

Photograph by Brown Brothers

CUTTING FLAG STARS BY MACHINERY

Five-pointed stars are used exclusively on our national flags today, but in the early days of the Republic the six-pointed star frequently appeared. Until 1842 the stars of the Great Seal of the United States were six-pointed, and they are still to be found on the "Liberty" side of many of our silver coins.

ing "colors," the band plays the national anthem, at the beginning of which the ensign is started up and hoisted smartly to the peak. All officers then face the ensign and salute, and the guard of the day and the sentries come to present. If there be no band, the field music sounds "to the colors." If the ship happens to be in a foreign port the national anthem of that country is played following the raising of the ensign. Then follow the national anthems of the ships of war present, in the order of rank.

At sunset "colors" the ensign is started from the peak at the beginning of the national anthem and is lowered slowly and with dignity. All officers and enlisted men face toward the colors. If in uniform, covered or uncovered, or in civilian clothes, uncovered, they salute at the first note of the anthem, retaining the position of salute until the last note of the anthem. If not in uniform and covered, they uncover at the first note of the anthem, holding the headdress opposite the left shoulder, and remain in that position until the last note of the anthem, except in inclement weather, when the

Photograph by Paul Thompson

THE LIVING EMBLEM OF OUR NATIONAL UNION

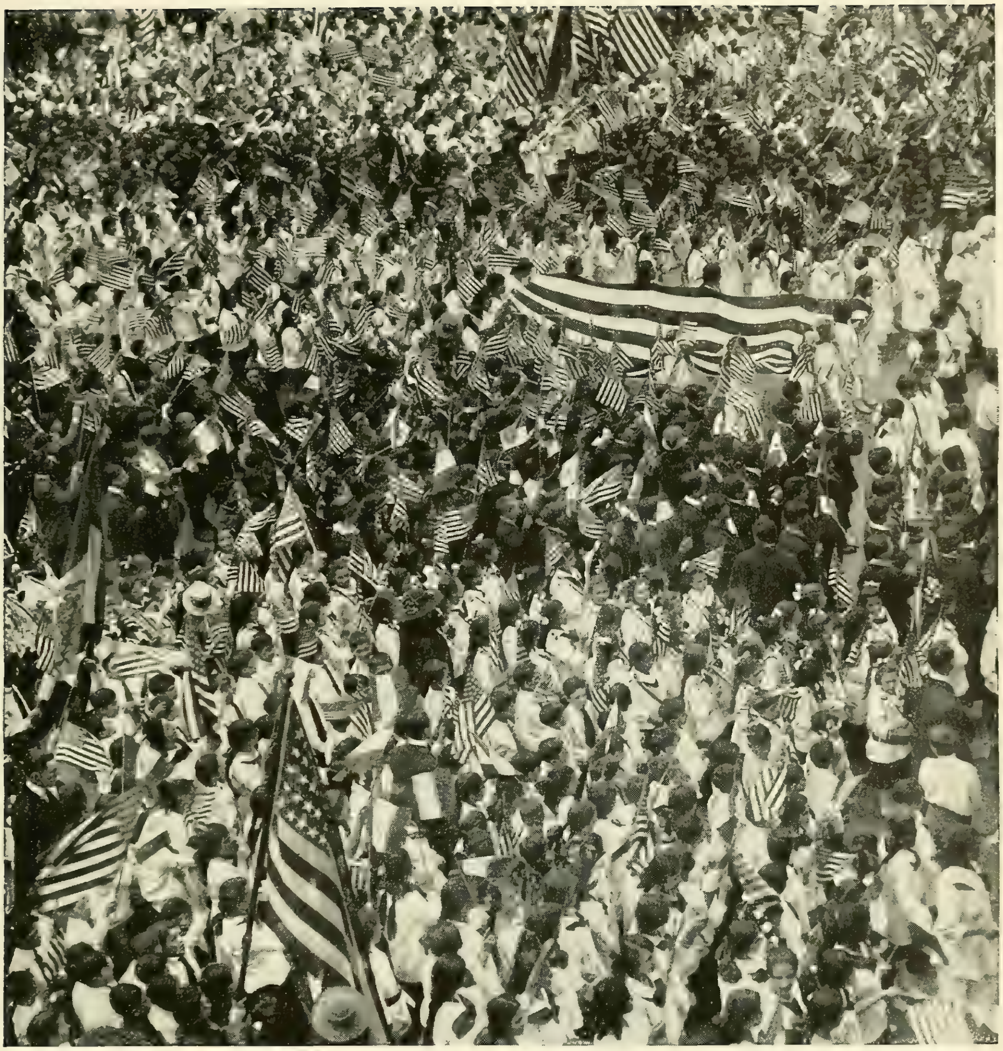
On many occasions and in many places throughout the United States the effective climax of a civic pageant is the formation of a mammoth living flag by school children wearing the red, white, and blue. The great emblem of liberty shown above was formed by the school children of Salt Lake City.

headdress may be slightly raised. The same marks of respect are shown to the national anthems of other countries. At "colors," pulling boats passing near a man-of-war, of any nationality, lie on their oars, and steamers stop their engines, the coxswains saluting and members of the crew outside the canopy standing facing the colors and saluting.

THE USAGES IN FLAG SALUTES

On board ships of the navy it is customary for officers and men whenever reaching the quarter-deck, from aboard boat, from a gangway, or from the shore, to salute the national ensign. They stop at the top of the gangway, or upon arriving at the quarter-deck, face the colors and salute. On leaving the quarter-deck the same salute is given. This is distinct from the salute to the officer of the deck.

When warships enter a port where there is a fort or battery displaying the national flag, or a commissioned ship of war, they display at the main the flag of the country in whose waters they are,



Photograph by Paul Thompson

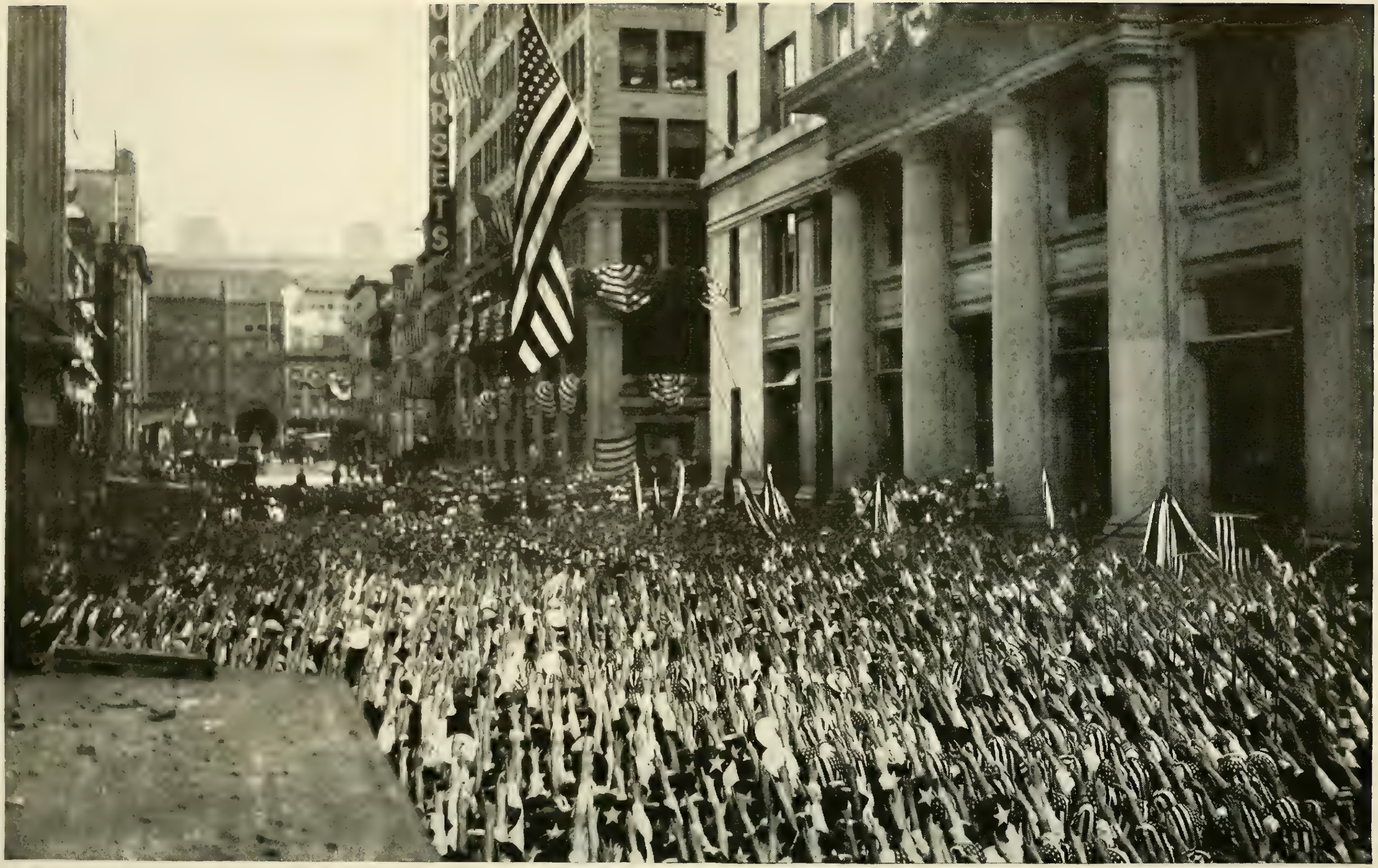
SCHOOL CHILDREN OF NEW YORK OBSERVING AMERICANIZATION DAY IN CITY HALL PARK

In this wonderful assemblage, truly representative of patriotic Young America, there are, perhaps, children whose forebears have come to our shores from all of the nations of the earth; and it is these children of alien races who are uniting and cementing a heterogeneous people into an indivisible and invincible force which, under the Stars and Stripes, is today battling for the liberty of the world.

and salute it with a national salute of twenty-one guns. The ships of the United States Navy do not salute forts and cities of the United States, and do not fire salutes in honor of any nation, or of any official of any nation, not formally recognized by this country. It is customary to fire salutes only between 8 a. m. and sunset. They are never fired between sunset and sunrise. During the present war salutes have been dispensed with as between allied countries.

The United States today requires that no ship of the navy shall lower her sails or dip her ensign unless in return for such compliment. A dip is made by quickly lowering the ensign and without pause quickly returning it to the peak.

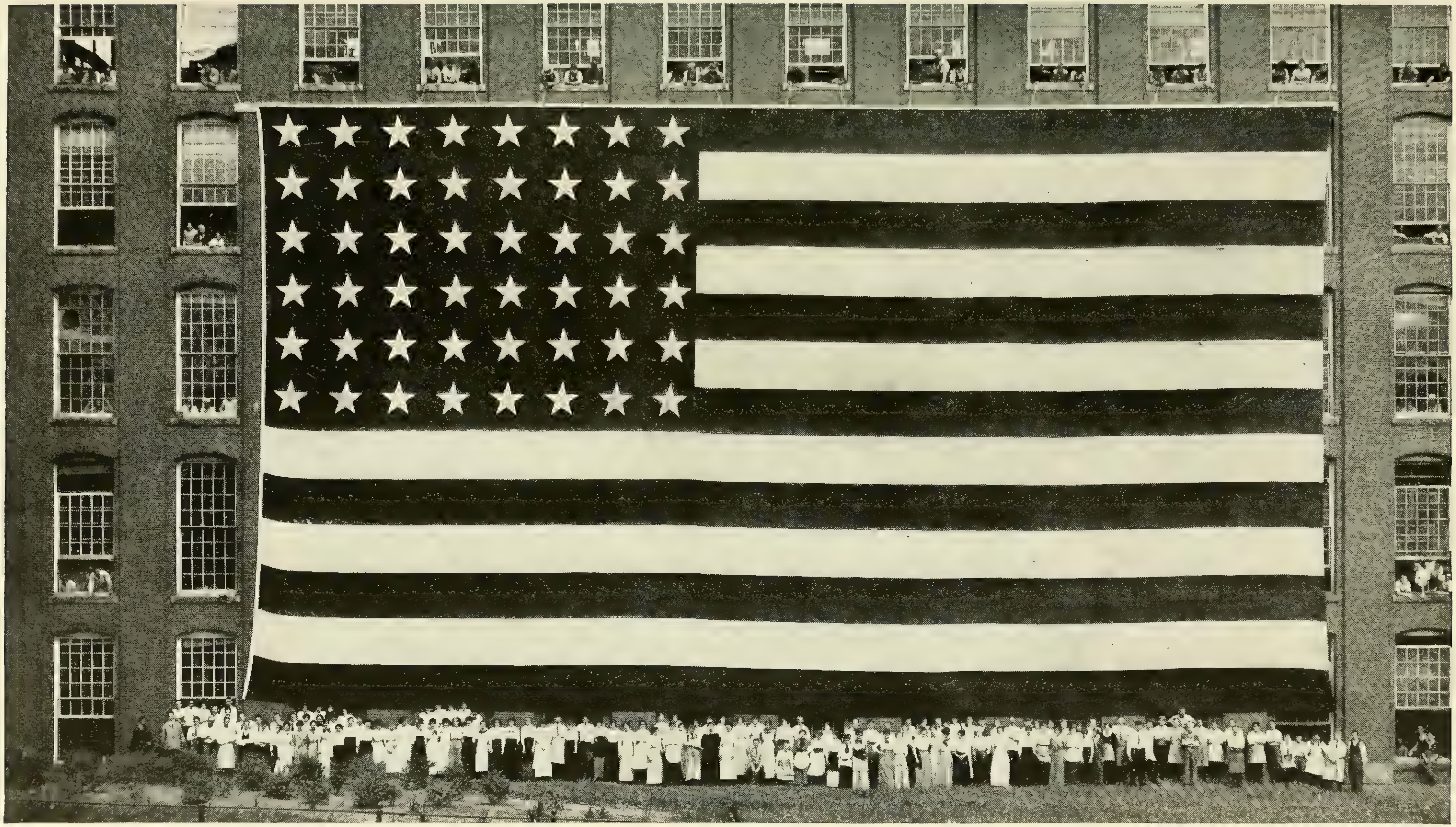
A flag or an ensign at half-mast is the universal sign of mourning. Before be-



Photograph by Paul Thompson

AMERICAN SCHOOL CHILDREN SALUTING THE AMERICAN FLAG

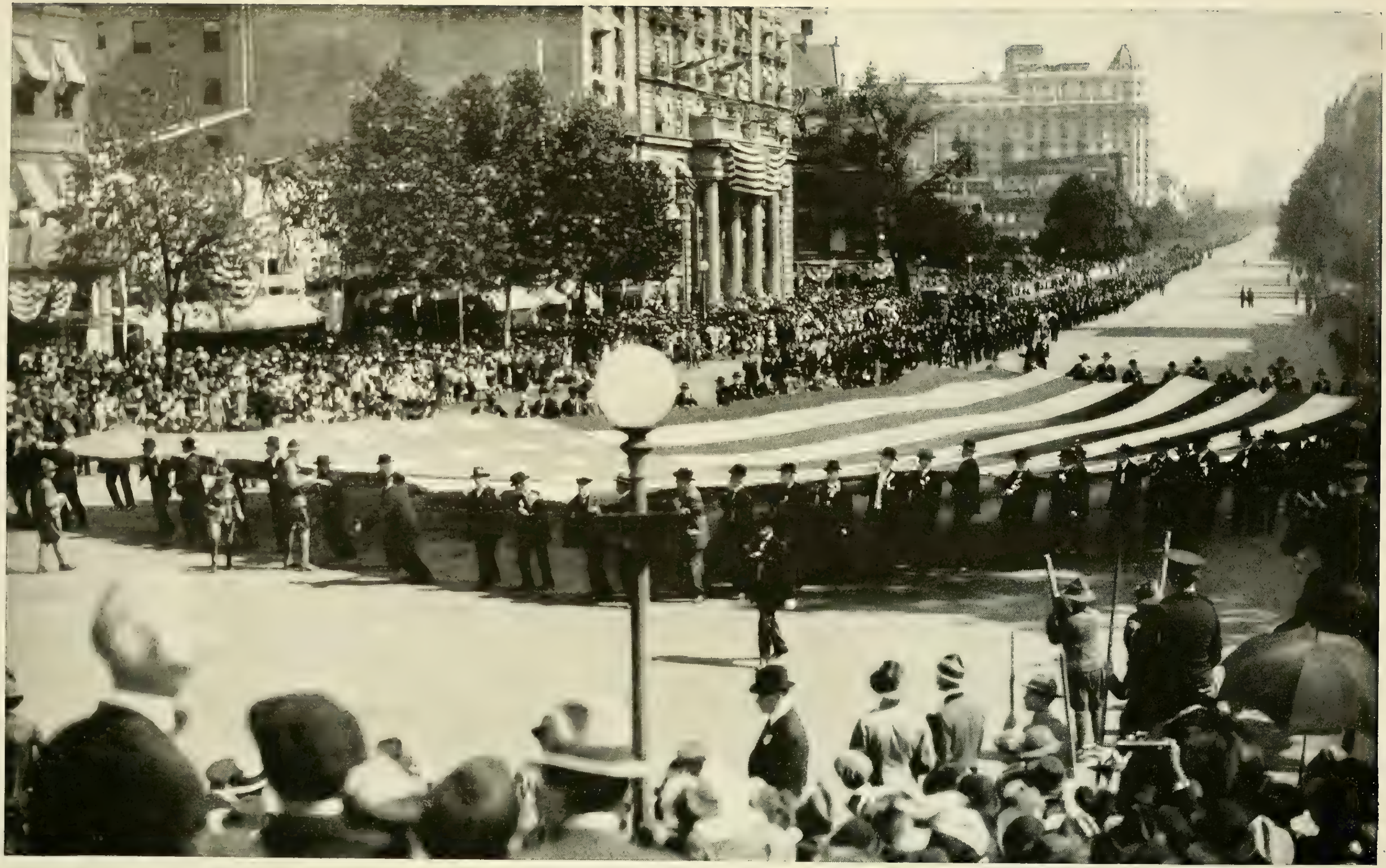
A sea of hands upraised and a thrilling chorus of treble voices uplifted in salutation as the Stars and Stripes are being unfurled above the newly dedicated Washington Irving High School, New York



Photograph from Harlan A. Marshall

FLAG WOVEN AND MADE UP BY MILL-WORKERS AT MANCHESTER, NEW HAMPSHIRE

Unquestionably one of the genuine "war brides" of industrial America is flag manufacturing. Never before in the history of this country has there been such a phenomenal demand for flags—not only Star Spangled Banners, but the flags of all the European nations with which the United States has joined forces in order to banish autocracy from the world. The arrival in America of the various missions of the Entente Allies has further quickened the demand for flags of foreign countries. Formerly a star-maker employed the primitive tools of die and mallet, but, in the face of the recent enormous demands, the flag factories now use motor-driven machines to cut the 48 State emblems required for every national ensign. The flag in the above illustration weighs 200 pounds and is 50 by 95 feet in size. The stars are one yard in diameter and are placed 4 feet 9 inches apart. The field of the union is 28 by 38 feet. (For correct proportions of our flag see page 312.)



© Harris & Ewing

MAMMOTH FLAG BORNE BY MEN WHO FOUGHT TO PRESERVE IT FOR THE UNION

This great banner was carried up Pennsylvania Avenue by veterans of Canton, Ohio, during the reunion of the Grand Army of the Republic, held in Washington, D. C., fifty years after the close of the Civil War. The Dome of Liberty so familiar to all can be seen in the distance.

ing placed at half-mast the flag must always be raised to the top of the staff, and before it is lowered from half-mast it must likewise be hoisted to the top.

WHEN A FLEET FARES FORTH TO BATTLE

At the command "Clear the ship for action," the battle ensigns are mastheaded and final preparations are made for battle, and under no circumstances is an action to be commenced or a battle fought without the display of the national ensign. When an enemy's ship strikes her colors in battle, the commanding officer of the man-of-war to whom she struck is required to continue the action with other ships of the enemy, but takes possession of the surrendered ship as soon as possible.

Striking the flag is an indication of surrender. The articles for the government of the Navy of the United States require the punishment by death, or such other penalties as a court-martial may adjudge, of any person in the naval service who strikes, or attempts to strike, the flag to an enemy or rebel without proper authority, or when engaged in battle treacherously yields or pusillanimously cries for quarter.

THE INSIGNIA OF THE UNIFORMED FORCES OF THE UNITED STATES

Presented in the six succeeding pages are the insignia of the various branches of the United States Army and Navy and of the organizations coöperating with them. By means of these illustrations one may identify the rank and arm of the service of the wearer of practically any American uniform seen during the period of the war—information which is of especial value at this time, when the young men of America are flocking to the colors and donning the uniform of our country to help in the titanic struggle to make the "World Safe for Democracy."

By direction of the Secretaries of War and Navy, officers and men wear only the service uniform for the duration of the war, dispensing with the handsome dress uniforms which give color to elaborate peace-time social functions in all the capitals of the world. Brass buttons have generally been discarded, and in their place in the Army and Marine Corps the more subdued color of bronze is in keeping with the somber olive drab of the field uniforms, reducing the visibility of the forces to a minimum.

In the comparatively short time we have been at war several important changes have been made and new branches and officers created. Generals Pershing and Bliss have been raised to the rank of full general—a grade vacant since the Civil War; and while no Admiral of the Navy has been appointed to succeed the late Admiral Dewey, Admirals Benson, Mayo, Caperton, and Knight have been made full admirals, and Admirals Sims and Coffman Vice-Admirals—grades recently revived by act of Congress in order that our officers may rank with the men of the Allied Forces with whom they are coöperating.

The U. S. Marine Corps, "the soldiers of the sea," operate, as usual, under the general direction of the Secretary of the Navy. The privates of this fighting force wear caps as a part of their field uniform while on board ship. On land they follow the style set by the army and wear the field service hat, with the difference, however, that they wear no colored cord, but have their metal corps device fastened to the crown. At the front they, as well as the men of the army, are wearing the shrapnel helmet.

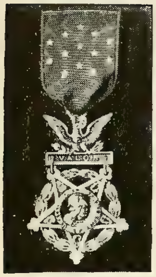
During times of peace the U. S. Coast Guard, acting under the Treasury Department, polices the Atlantic and Pacific seaboards, and its cutters are the foes of smugglers and other lawbreakers. It also performs life-saving service on these shores, enforces the sealing laws in northern waters, and patrols the sea lanes of commerce for icebergs and derelicts. In time of war the Coast Guard automatically becomes a branch of the navy.

The U. S. Public Health Service is an especially important organization in war times, and its men in uniform are performing a valuable service in safeguarding the health of soldiers at home by creating the best sanitary conditions in the territory surrounding the great encampments.

Many patriotic societies are coöperating with the military forces to lessen the soldier's hardships, and chief among these is the American Red Cross, which is facing an enormous task in caring for the sick and wounded, besides furnishing numerous comforts for the men in the field. This great organization is vastly increased in personnel, and a field uniform, with appropriate insignia, has been recently adopted for its officials abroad, the essentials of which are shown on page 419.

With the forces in the field, both in this country and abroad, are hundreds of men who are dispensing the hospitality of the Y. M. C. A. and the Knights of Columbus, and are looking out for the welfare of the soldiers in every manner their ingenuity can devise. These men are distinguished by insignia worn on semi-military uniforms (see page 419).

NOTE.—The Italian airplane insignia, painted on wings of machines, are like the French, No. 240, on page 319, except that the centers are green.



MEDAL OF HONOR

SERVICE HAT

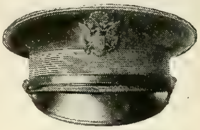
Worn by Officers in field and all Enlisted Men.

GENERAL OFFICERS	GOLD CORD
ALL OTHER OFFICERS	GOLD AND BLACK CORD
RESERVE OFFICERS TRAINING CAMP	RED, WHITE AND BLUE CORD

ENLISTED MEN

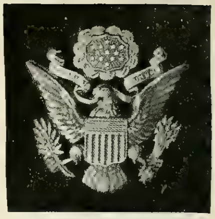
INFANTRY	LIGHT BLUE CORD	ENGINEERS	SCARLET AND WHITE CORD
CAVALRY	YELLOW CORD	ORDNANCE	BLACK AND SCARLET CORD
ARTILLERY	SCARLET CORD	SIGNAL CORPS	ORANGE AND WHITE CORD
MEDICAL	MAROON AND WHITE CORD	FIELD CLERKS	BLACK AND SILVER CORD

QUARTERMASTER CORPS BUFF CORD



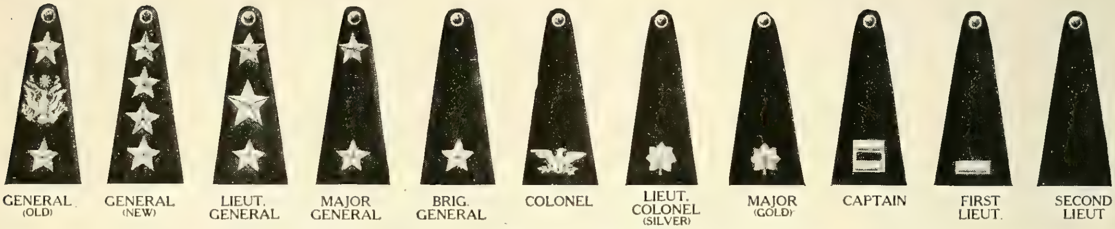
SERVICE CAP

All Commissioned Officers



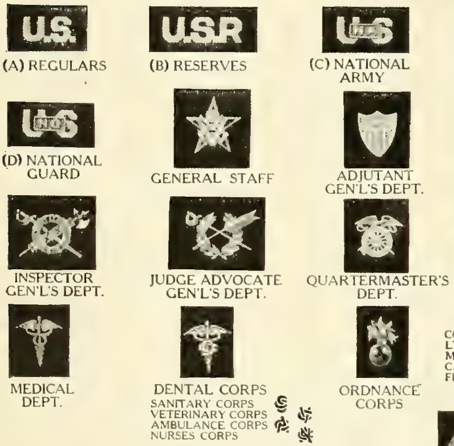
CAP DEVICE

ALL COMMISSIONED OFFICERS



GENERAL (OLD) GENERAL (NEW) LIEUT. GENERAL MAJOR GENERAL BRIG. GENERAL COLONEL LIEUT. COLONEL (SILVER) MAJOR (GOLD) CAPTAIN FIRST LIEUT. SECOND LIEUT.

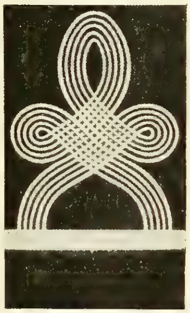
INSIGNIA OF RANK ON SHOULDER LOOPS COMMISSIONED OFFICERS OF THE U. S. ARMY



(A) REGULARS (B) RESERVES (C) NATIONAL ARMY (D) NATIONAL GUARD GENERAL STAFF ADJUTANT GEN'L'S DEPT. INSPECTOR GEN'L'S DEPT. JUDGE ADVOCATE GEN'L'S DEPT. QUARTERMASTER'S DEPT. MEDICAL DEPT. DENTAL CORPS SANITARY CORPS VETERINARY CORPS AMBULANCE CORPS NURSES CORPS ORDNANCE CORPS

COLLAR DEVICES COMMISSIONED OFFICERS

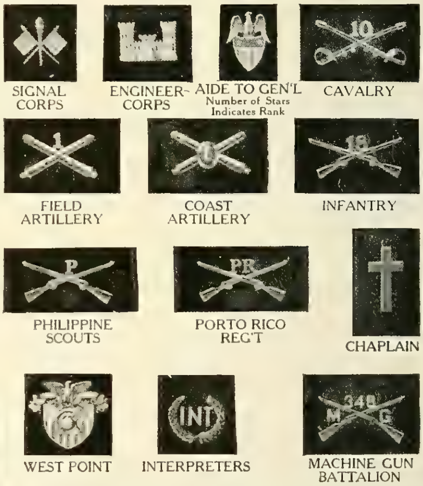
A, B, C or D is worn in conjunction with the appropriate corps device
The U. S. is worn on each side of collar and the corps device back of it



OVERCOAT SLEEVES

GENERALS HAVE STARS OF RANK

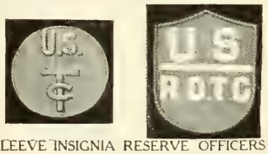
COLONEL	FIVE STRIPS OF BRAID
LT. COLONEL	FOUR " " "
MAJOR	THREE " " "
CAPTAIN	TWO " " "
FIRST LIEUT.	ONE STRIP " "



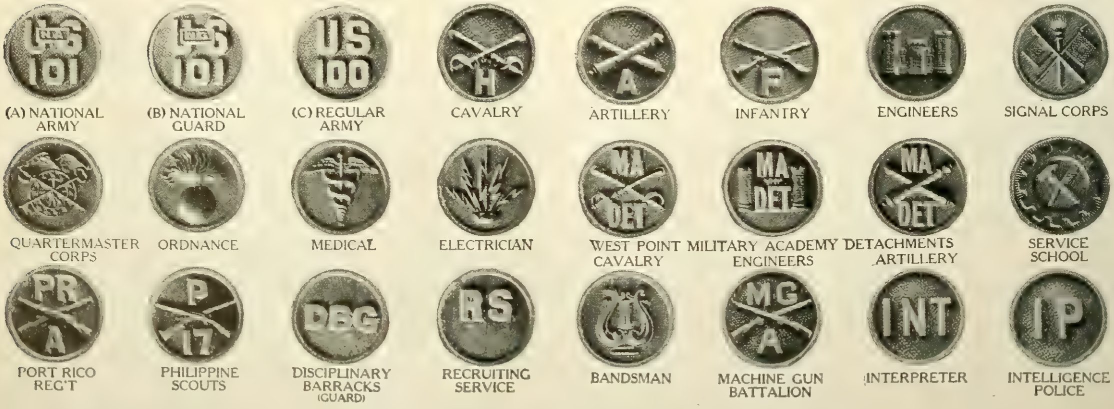
SIGNAL CORPS ENGINEER CORPS AIDE TO GEN'L Number of Stars Indicates Rank CAVALRY FIELD ARTILLERY COAST ARTILLERY INFANTRY PHILIPPINE SCOUTS PORTO RICO REG'T CHAPLAIN WEST POINT INTERPRETERS MACHINE GUN BATTALION

COLLAR DEVICES COMMISSIONED OFFICERS

(See note on opposite side of page)



SLEEVE INSIGNIA RESERVE OFFICERS TRAINING CAMPS



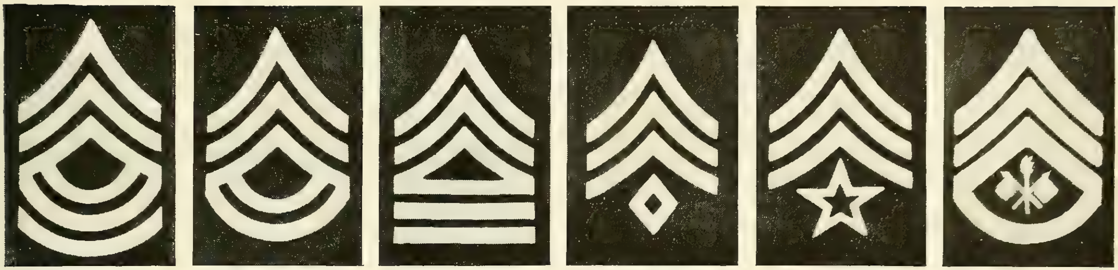
(A) NATIONAL ARMY (B) NATIONAL GUARD (C) REGULAR ARMY CAVALRY ARTILLERY INFANTRY ENGINEERS SIGNAL CORPS

QUARTERMASTER CORPS ORDNANCE MEDICAL ELECTRICIAN WEST POINT MILITARY ACADEMY DETACHMENTS CAVALRY ENGINEERS ARTILLERY SERVICE SCHOOL

PORT RICO REG'T PHILIPPINE SCOUTS DISCIPLINARY BARRACKS (GUARD) RECRUITING SERVICE BANDSMAN MACHINE GUN BATTALION INTERPRETER INTELLIGENCE POLICE

Note: A, B or C is worn on right side of collar
On left side is button denoting arm of service

COLLAR INSIGNIA ENLISTED MEN, U. S. ARMY



REGIMENTAL SERGEANT MAJOR

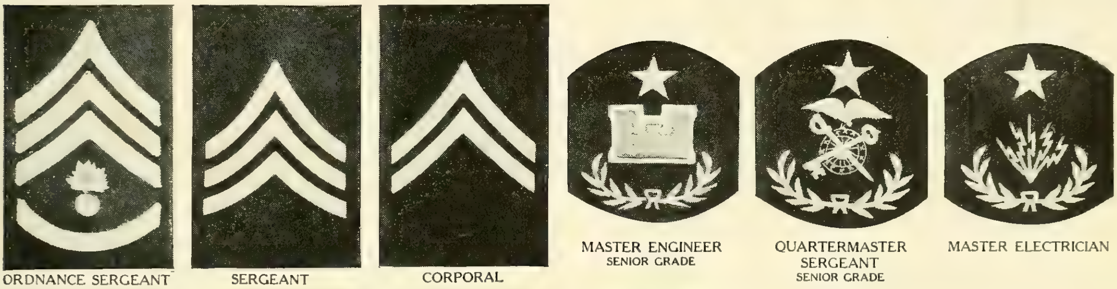
BATTALION SERGEANT MAJOR

REGIMENTAL SUPPLY SERGEANT

FIRST SERGEANT

COLOR SERGEANT

SIGNAL CORPS SERGEANT FIRST CLASS



ORDNANCE SERGEANT

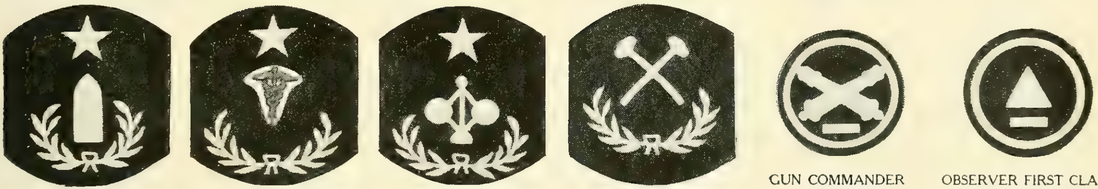
SERGEANT

CORPORAL

MASTER ENGINEER
SENIOR GRADE

QUARTERMASTER SERGEANT
SENIOR GRADE

MASTER ELECTRICIAN



MASTER GUNNER

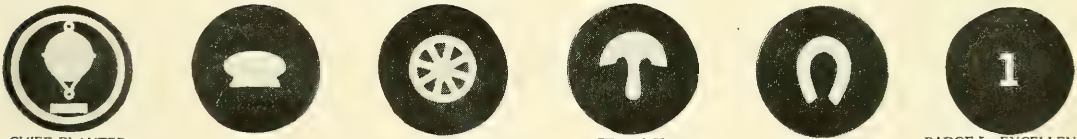
MASTER HOSPITAL SERGEANT

ENGINEER COAST ARTILLERY

CHIEF MECHANIC
FIELD ARTILLERY

GUN COMMANDER
COAST ARTILLERY

OBSERVER FIRST CLASS
COAST ARTILLERY



CHIEF PLANTER
COAST ARTILLERY

COOK

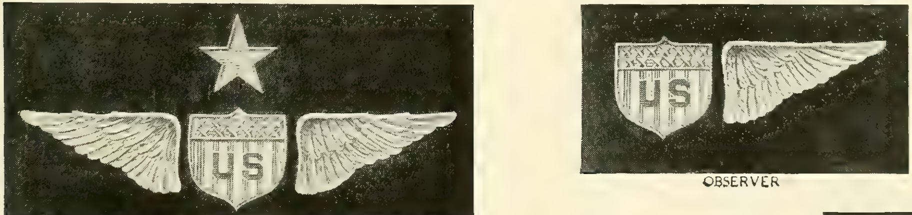
WAGONER

SADDLER

HORSESHOER

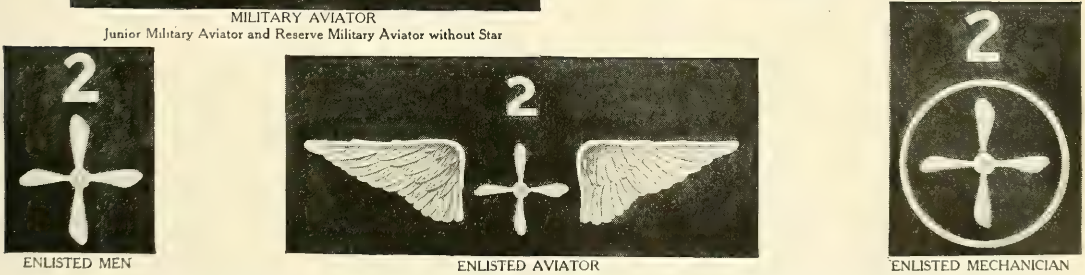
BADGE for EXCELLENCE IN TARGET PRACTICE

CHEVRONS AND SLEEVE INSIGNIA OF NON-COMMISSIONED OFFICERS AND ENLISTED MEN, U. S. ARMY
Conforming in color to arm of service (See hat cord colors opposite page)



MILITARY AVIATOR
Junior Military Aviator and Reserve Military Aviator without Star

OBSERVER



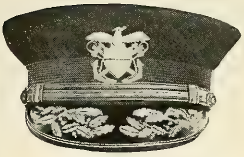
ENLISTED MEN

ENLISTED AVIATOR

ENLISTED MECHANICIAN

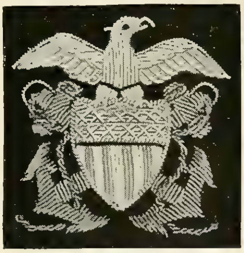
INSIGNIA OF AVIATION SECTION, SIGNAL CORPS, U. S. ARMY
Note: Military Aviators and Observers wear U. S. and crossed flags of Signal Corps on collar, and Enlisted Men regular Signal Corps buttons on collar
The Insignia of Military Aviators and Observers are embroidered in silver thread with gold U. S. and worn on left breast, Enlisted Men on sleeve

MEDAL OF HONOR

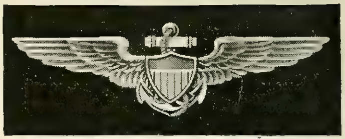


SERVICE UNIFORM CAP
ALL COMMISSIONED OFFICERS

Gold Braid Design on Visor as shown for Flag Officers
Gold Braid Design similar for Capt's and Com'and'rs
Staff Officers with rank of Rear Admiral or Captains have strip of plain Gold Braid
Lt Commanders, Lieutenants and Ensigns have no Gold Braid on Visor

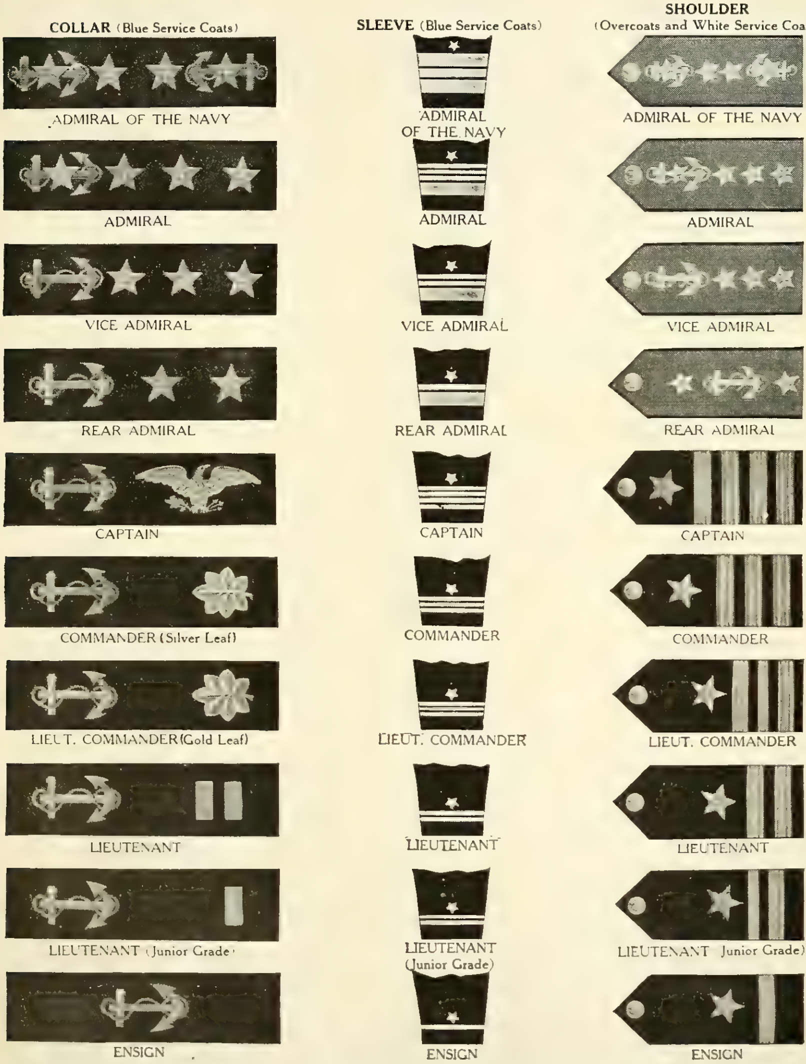


CAP DEVICE
ALL COMMISSIONED OFFICERS



NAVAL AVIATORS
GOLD BAR PIN WORN ON LEFT BREAST

Naval Aviators wear uniform resembling Marine Corps field service but with regulation cap and shoulder marks on service coat



COLLAR (Blue Service Coats)

ADMIRAL OF THE NAVY
ADMIRAL
VICE ADMIRAL
REAR ADMIRAL
CAPTAIN
COMMANDER (Silver Leaf)
LIEUT. COMMANDER (Gold Leaf)
LIEUTENANT
LIEUTENANT (Junior Grade)
ENSIGN

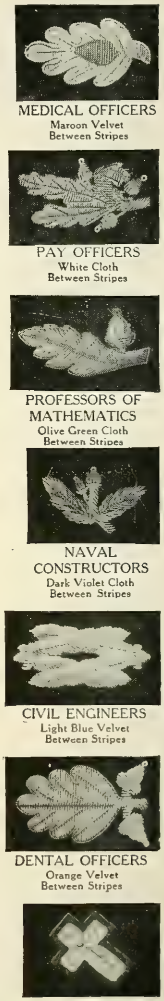
SLEEVE (Blue Service Coats)

ADMIRAL OF THE NAVY
ADMIRAL
VICE ADMIRAL
REAR ADMIRAL
CAPTAIN
COMMANDER
LIEUT. COMMANDER
LIEUTENANT
LIEUTENANT (Junior Grade)
ENSIGN

SHOULDER (Overcoats and White Service Coats)

ADMIRAL OF THE NAVY
ADMIRAL
VICE ADMIRAL
REAR ADMIRAL
CAPTAIN
COMMANDER
LIEUT. COMMANDER
LIEUTENANT
LIEUTENANT (Junior Grade)
ENSIGN

COLLAR, SLEEVE AND SHOULDER INSIGNIA OF COMMISSIONED LINE OFFICERS OF THE U. S. NAVY



MEDICAL OFFICERS
Maroon Velvet Between Stripes

PAY OFFICERS
White Cloth Between Stripes

PROFESSORS OF MATHEMATICS
Olive Green Cloth Between Stripes

NAVAL CONSTRUCTORS
Dark Violet Cloth Between Stripes

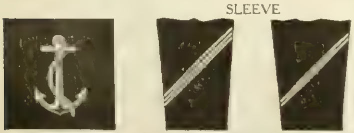
CIVIL ENGINEERS
Light Blue Velvet Between Stripes

DENTAL OFFICERS
Orange Velvet Between Stripes

CHAPLAINS

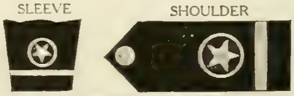
STAFF OFFICERS'
CORPS DEVICES

Note: The anchor and the star indicate Line Officers. In the collar insignia Staff Officers substitute for the anchor the device of the corps to which they belong. On the shoulder marks and sleeves the appropriate corps color fills the spaces between the stripes and the star is omitted.



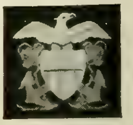
SLEEVE

CAP DEVICE FIRST CLASS SECOND CLASS
MIDSHIPMEN.

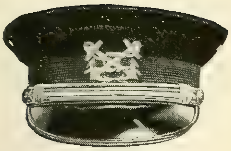


SLEEVE SHOULDER

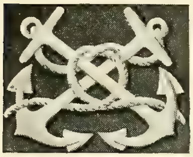
NAVAL MILITIA
In other respects like regular service except Staff Officers corps colors are broken in middle.



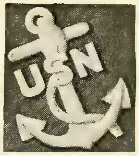
NAVAL RESERVE FORCE
Worn on collar in lieu of corps device. In other respects same as regular service



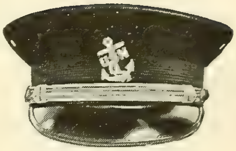
WARRANT OFFICER'S CAP



CAP DEVICE—WARRANT OFFICERS



CAP DEVICE—PETTY OFFICERS

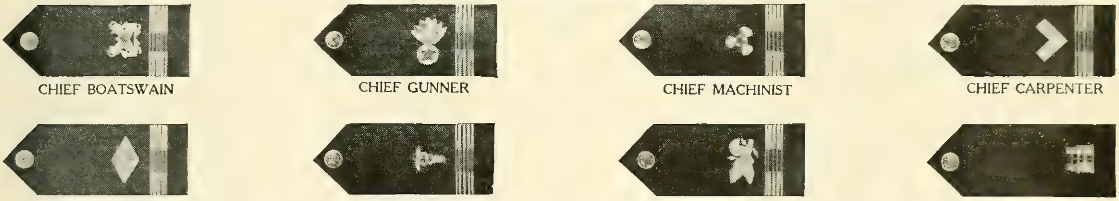


PETTY OFFICER'S CAP

UNITED STATES NAVY

U. S. NAVAL RESERVE FORCE

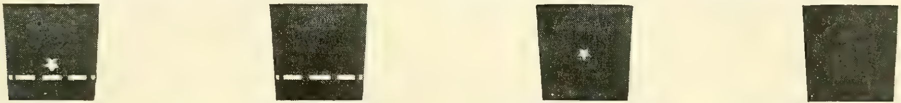
NAVAL MILITIA



CHIEF BOATSWAIN CHIEF GUNNER CHIEF MACHINIST CHIEF CARPENTER

CHIEF SAILMAKER CHIEF PHARMACIST CHIEF PAY CLERK MATE

SHOULDER MARKS—CHIEF WARRANT OFFICERS, U. S. NAVY (For Warrant Officers Omit Stripe)



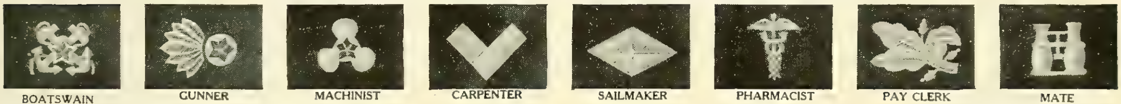
CHIEF BOATSWAIN
CHIEF GUNNER
CHIEF MACHINIST

CHIEF CARPENTER
CHIEF SAILMAKER
CHIEF PHARMACIST

BOATSWAIN GUNNER
MACHINIST MATE

CARPENTER SAILMAKER
PHARMACIST PAY CLERK

INSIGNIA OF RANK ON SLEEVES OF WARRANT OFFICERS, U. S. NAVY



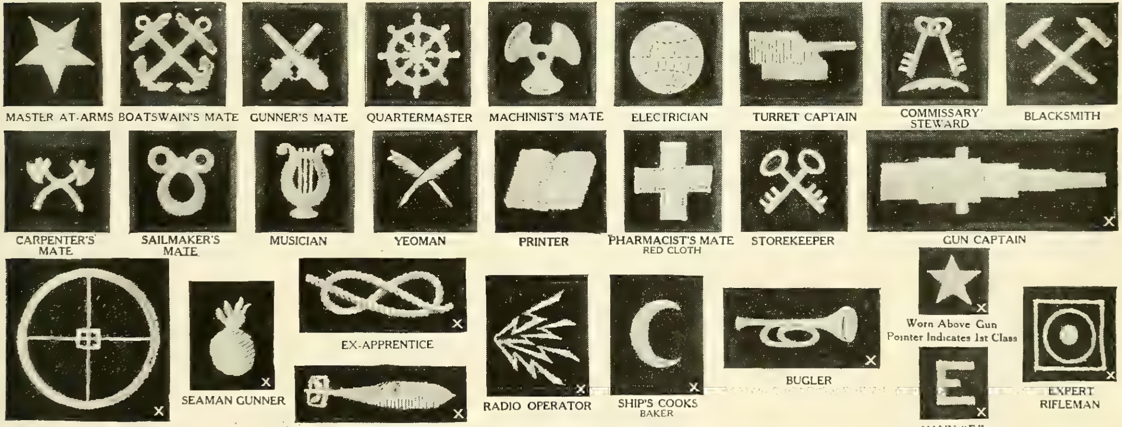
BOATSWAIN GUNNER MACHINIST CARPENTER SAILMAKER PHARMACIST PAY CLERK MATE

Chief Boatswain, Gunner and Machinist—Silver Device, Gold Star
Boatswain, Gunner and Machinist—Gold Device, Silver Star

20 Years Service—Silver
Less than 20 Years' Service—Gold

COLLAR DEVICES OF WARRANT OFFICERS, U. S. NAVY

Chief Carpenter, Sailmaker, Pharmacist and Pay Clerk—Silver
Carpenter, Sailmaker, Pharmacist and Pay Clerk—Gold



MASTER-AT-ARMS BOATSWAIN'S MATE GUNNER'S MATE QUARTERMASTER MACHINIST'S MATE ELECTRICIAN TURRET CAPTAIN COMMISSARY STEWARD BLACKSMITH

CARPENTER'S MATE SAILMAKER'S MATE MUSICIAN YEOMAN PRINTER PHARMACIST'S MATE RED CLOTH STOREKEEPER GUN CAPTAIN

GUN POINTER SEAMAN GUNNER EX-APPRENTICE TORPEDOMAN RADIO OPERATOR SHIP'S COOKS BAKER BUGLER

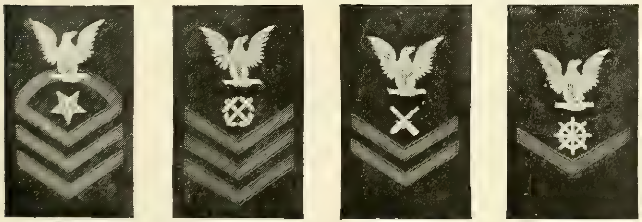
Worn Above Gun Pointer Indicates 1st Class

NAVY "E" For Excellence

EXPERT RIFLEMAN

DISTINGUISHING MARKS ON SLEEVES OF PETTY OFFICERS U.S. NAVY

Those Marked X Also Worn by Enlisted Men Not Petty Officers



CHIEF MASTER-AT-ARMS

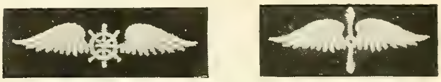
BOATSWAIN FIRST CLASS

GUNNER SECOND CLASS

QUARTERMASTER THIRD CLASS

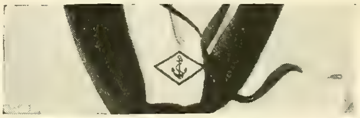
RATING BADGES, PETTY OFFICERS U. S. NAVY

Used with Appropriate Distinguishing Marks Shown Above.

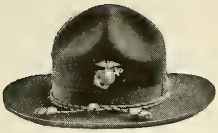


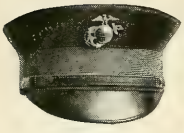
QUARTERMASTER MACHINIST'S MATE

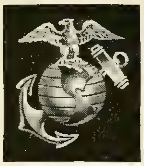
DISTINGUISHING MARKS PETTY OFFICERS OF AVIATION SERVICE

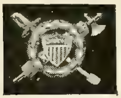


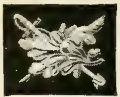
DISTINGUISHING MARK, ENLISTED MEN, NAVAL MILITIA

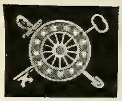

U. S. MARINE CORPS
FIELD SERVICE HAT
Worn on Shore with Field Service Uniform (Officers wear Gold and Scarlet Hat Cord) Enlisted Men wear no cords.

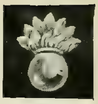

U S. MARINE CORPS
FIELD SERVICE CAP
Officers and Enlisted Men Worn Aboard Ship and Other Occasions When Prescribed


U. S. MARINE CORPS DEVICE
Worn on all Hats and Caps and on Commissioned Officers Collars

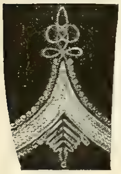

ADJUTANT AND INSPECTOR'S DEPT.

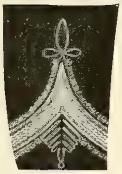

PAYMASTER'S DEPARTMENT

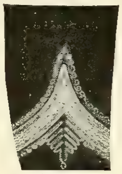

QUARTERMASTER'S DEPARTMENT

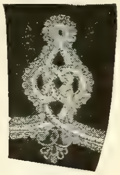

MARINE GUNNER

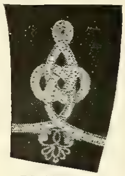
COLLAR ORNAMENTS STAFF AND WARRANT OFFICERS
Staff Officers Wear both Corps and Department Device
Warrant Officers Wear Department Device Only

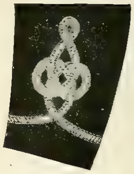

COLONEL

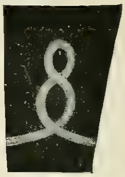

LT. COLONEL


MAJOR

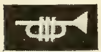

CAPTAIN

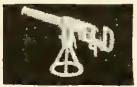

FIRST LIEUT.

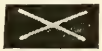

SECOND LIEUT

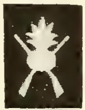

WARRANT OFFICERS

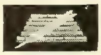
RANK INSIGNIA COMMISSIONED OFFICERS OF THE U. S. MARINE CORPS ON OVERCOAT SLEEVES

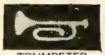

SECOND LEADER OF BAND
(With Three Chevrons)

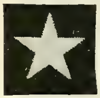

GUN POINTER


DRUMMER


GUNNERY SERGEANT
(With Three Chevrons)

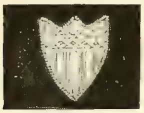

PAYMASTER'S DEPT

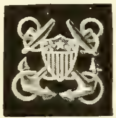

TRUMPETER

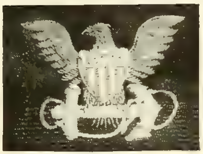

DRUM MAJOR
(With Three Chevrons)

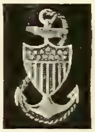
DISTINCTIVE SLEEVE MARKS ENLISTED MEN OF THE U. S. MARINE CORPS

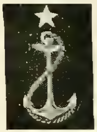
Note: The U. S. Marine Corps follows generally the Insignia of the U S. Army, with the exceptions shown above
Shoulder loop insignia is the same as for similar rank in the army, but besides being worn on service coat is also worn on overcoat shoulders.


U S COAST GUARD SHIELD
Used like Navy Star on Sleeves of Line Officers and superimposed on Collar Anchors


WARRANT OFFICER'S CAP DEVICE


COMMISSIONED OFFICER'S CAP DEVICE


PETTY OFFICER'S CAP DEVICE


CADET'S CAP DEVICE
(Also worn on collar)

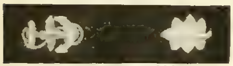
UNITED STATES COAST GUARD

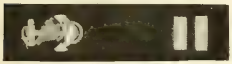
COLLAR (Blue Service Coats)

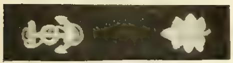
CAPTAIN COMMANDANT

SENIOR CAPTAIN AND CAPTAIN

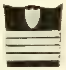
LIEUTENANTS


ENGINEER OFFICERS

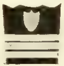

CONSTRUCTORS


DISTRICT SUPERINTENDENTS

SLEEVE (Blue Service Coats)

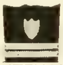

CAPTAIN COMMANDANT

Silver Leaf—Senior Captain
Gold Leaf—Captain


Equal Stripes—Senior Captain
Half Width Center Stripe—Captain

SENIOR CAPTAIN AND CAPTAIN

Two Bars—First Lieutenant
One Bar—Second Lieutenant
No Bar—Third Lieutenant

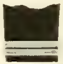

Two Stripes—First Lieutenant
One and One-half Stripes—Second Lieutenant
One Stripe—Third Lieutenant

LIEUTENANTS

Silver Leaf—Engineer-in-Chief
Gold Leaf—Captain
Two Bars—First Lieutenant
One Bar—Second Lieutenant
No Leaf or Bars—Third Lieutenant
No Anchor, Leaves in Center—Cadet

Stripes as Shown—Engineer-in-Chief
Half Width Center Stripe—Captain
Two Equal Stripes—First Lieutenant
One and One-half Stripes—Second Lieutenant
One Stripe—Third Lieutenant
No Stripes—Cadet

ENGINEER OFFICERS


Brown Velvet Between Stripes

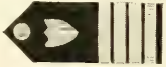
CONSTRUCTORS

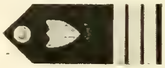
Gold Leaf—Senior Superintendent
Two Bars—First Lieutenant
One Bar—Second Lieutenant
Anchor Only—Third Lieutenant

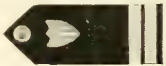
Stripes as Shown—Senior Superintendent
Two Equal Stripes—First Lieutenant
One and One-half Stripes—Second Lieutenant
One Stripe—Third Lieutenant

DISTRICT SUPERINTENDENTS Green Cloth Between Stripes

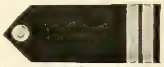
SHOULDER (Overcoats and White Service Coats)


CAPTAIN COMMANDANT


SENIOR CAPTAIN AND CAPTAIN

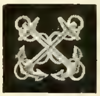

LIEUTENANTS

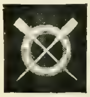
ENGINEER OFFICERS

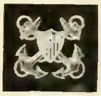

CONSTRUCTORS

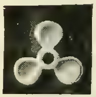
DISTRICT SUPERINTENDENTS

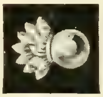
COLLAR, SLEEVE AND SHOULDER INSIGNIA OF COMMISSIONED OFFICERS OF THE UNITED STATES COAST GUARD

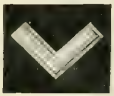

BOATSWAIN


KEEPER

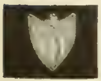

MASTER'S MATE

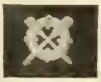

MACHINIST

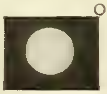

MARINE GUNNER

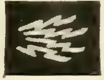

CARPENTER

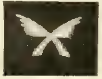
COLLAR DEVICES OF WARRANT OFFICERS U. S. COAST GUARD

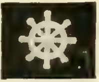

MASTER-AT-ARMS

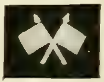

No 1 SURFMAN

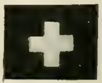

ELECTRICIAN

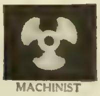

ELECTRICIAN
1st, 2d and 3d Class

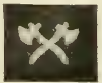

YEOMAN

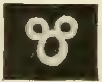

WHEELMAN

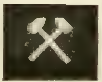

SIGNAL QUARTERMASTER

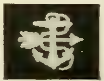

BAYMAN
(Hospital Corps)

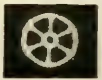

MACHINIST

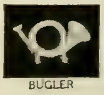

CARPENTER


SAILMAKER

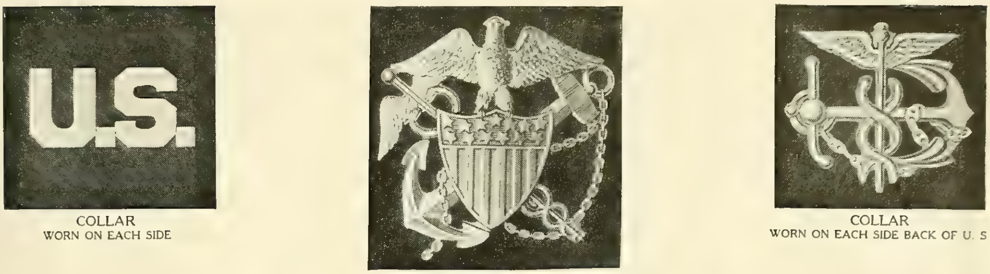

BLACKSMITH


COXSWAIN


WATER TENDER


BUGLER

SPECIALTY MARKS PETTY OFFICERS U. S. COAST GUARD
(Worn with rating badges similar to those at foot of page 417)

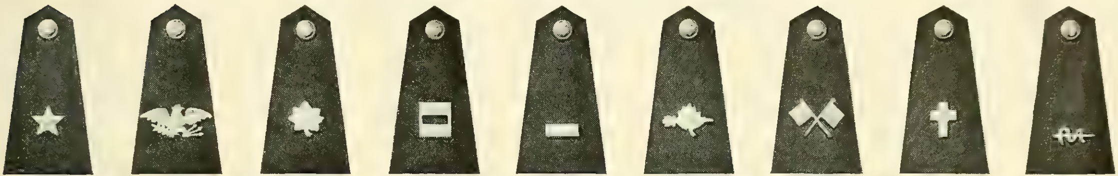


COLLAR
WORN ON EACH SIDE

CAP DEVICE

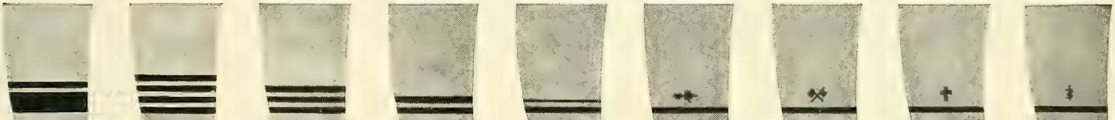
COLLAR
WORN ON EACH SIDE BACK OF U. S

UNITED STATES PUBLIC HEALTH SERVICE

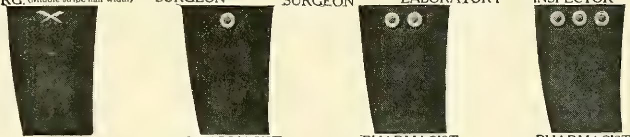


SURGEON GENERAL · ASST. SURG. GENERAL · SENIOR SURG. (SILVER) SURGEON (GOLD) · PASSED ASST. SURG. · ASST. SURG. · PROFESSOR HYGIENIC LAB. · QUARANTINE INSPECTOR · CHAPLAIN · INTERNE

INSIGNIA OF RANK ON SHOULDER LOOPS



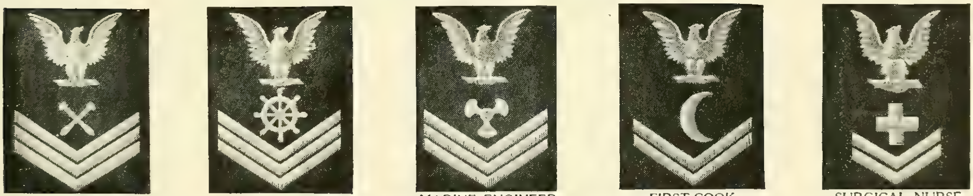
SURGEON GENERAL · ASST. SURG. GEN'L · SENIOR SURG. SURG. (Middle stripe half width) · PASSED ASST. SURGEON · ASSISTANT SURGEON · PROF. HYG LABORATORY · QUARANTINE INSPECTOR · CHAPLAIN · INTERNE



CLERK · PHARMACIST (3d CLASS) · PHARMACIST (2d CLASS) · PHARMACIST (1st CLASS)

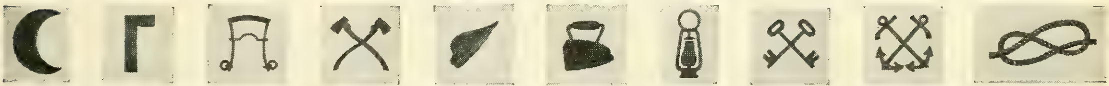
NOTE: Cachets of Clerks' and Pharmacists also worn on service coat.

SLEEVE MARKS ON OVERCOATS



STATION ENGINEER · PILOT · MARINE ENGINEER · FIRST COOK · SURGICAL NURSE

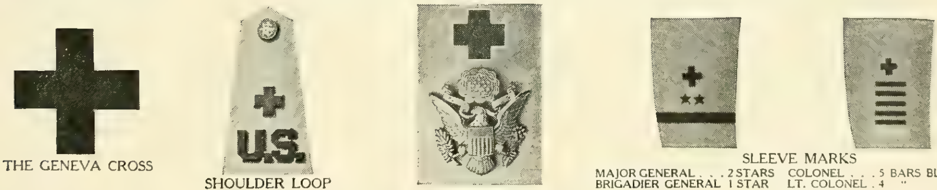
EMPLOYES' SLEEVE MARKS (Maroon Silk)



COOK · CARPENTER · COACHMAN · YARDMAN · MESSENGER · LAUNDRYMAN · NIGHT WATCH · SHIPKEEPER · BOATSWAIN · COXSWAIN

SPECIALTY MARKS (Maroon Silk) SPECIALTY MARKS (Maroon Silk)

UNITED STATES PUBLIC HEALTH SERVICE



THE GENEVA CROSS · SHOULDER LOOP · CAP DEVICE

SLEEVE MARKS

MAJOR GENERAL . . . 2 STARS
BRIGADIER GENERAL 1 STAR

COLONEL . . . 5 BARS BLUE CLOTH
LT. COLONEL . 4 " " "
MAJOR . . . 3 " " "
CAPTAIN . . . 2 " " "
FIRST LIEUT. . 1 BAR " "

AMERICAN RED CROSS

WORN IN AMERICA · WORN ABROAD

SLEEVE INSIGNIA Y. M. C. A. SECRETARIES

COLLAR · SLEEVE

KNIGHTS OF COLUMBUS SECRETARIES

Photograph by May L. Smith

MAKERS OF THE FLAG

Then conquer we must, when our cause it is just,
And this be our motto: *"In God is our trust."*
And the Star Spangled Banner in triumph shall wave
O'er the land of the free and the home of the brave.

Vol. XXXII November—December, 1917 Nos. 5-6

THE NATIONAL GEOGRAPHIC MAGAZINE

TRAINING THE NEW ARMIES OF LIBERTY

Camp Lee, Virginia's Home for the National Army

By Major Granville Fortescue, U. S. A.

SHOULD the spirit of General Robert E. Lee be watching over the National Army cantonment named in his honor, that spirit must follow the training of the eightieth division with warm pride. Perhaps a certain wistfulness would be mingled with that pride, for these loose-jointed Virginians tramp over the ground their fathers made famous in the last battles for the Confederacy. The Petersburg crater, where the bones of Northern and Southern soldiers lie buried as they fell, is but a musket-shot distant from the American flag flying today above division headquarters, and grass-green earthworks, built to defend the city of Richmond, were leveled to make place for the thousand buildings of Camp Lee.

City Point, General Grant's advanced base in the operations against Richmond and the Army of Virginia, which culminated in that pathetic episode staged in Appomattox Court-house, lies six miles northeast of the cantonment, while Petersburg, where the ill-fated General A. P. Hill maintained headquarters until he was killed, is three miles to the west.

BLEEDING WOUNDS OF OUR CIVIL WAR HAPPILY HEALED

The significance of naming Camp Lee lies deeper than the simple honoring of a splendid Southern soldier and Christian gentleman. Behind that honor lies the fact of the American nation strongly united. The bleeding wounds of the fratricidal conflict of 1861-1865 are healed, leaving not the faintest cicatrix behind. Here, on the ground where that bloody national struggle reached its climax, Virginians proudly wear the uniform of the United States Army and loyally salute the flag that now symbolizes freedom throughout the world.

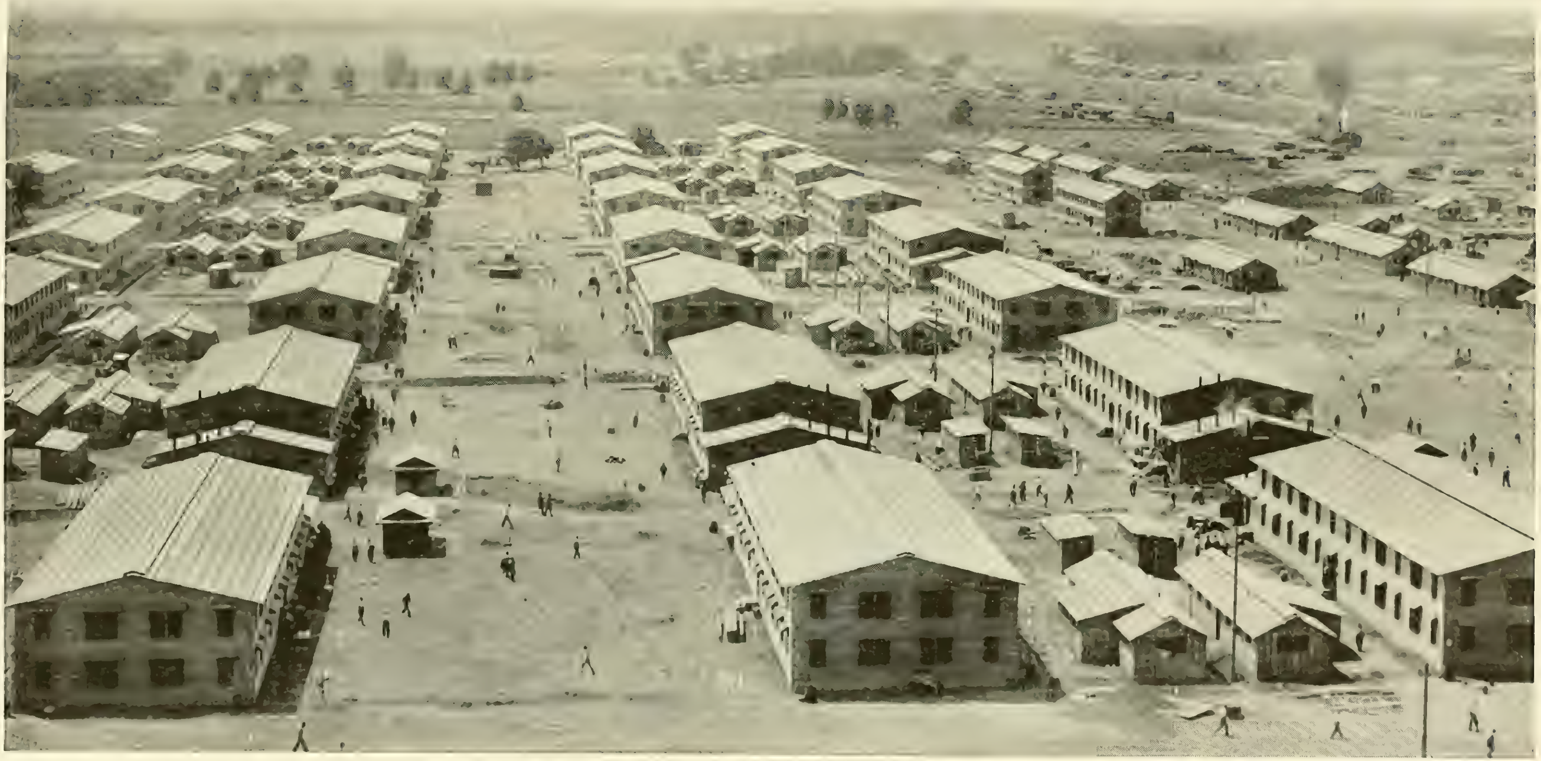
In the struggle which the nation faces, the South vies with the North in giving its all for the cause. Virginians these men are through honorable tradition, but today, before the proud State title, they place their claim to being Americans.

When the benefits that come to the nation through the creation of the National Army are ultimately catalogued, the fact that it has welded the country into a homogeneous society, seeking the same national ends and animated by the same national ideals, will overtop all other advantages. The organization of this selected army fuses the thousand separate elements making up the United States into one steel-hard mass. Men of the North, South, East, and West meet and mingle and on the anvil of war become citizens worthy of the liberties won by the first American armies.

Here in Virginia the last vestiges of sectional divergence disappear, and in

THE FIRST STEPS IN CONVERTING A PROSPEROUS FARM INTO A SOLDIER CITY OF 45,000 INHABITANTS, AN UNDERTAKING ACCOMPLISHED IN LESS THAN THREE MONTHS (SEE PAGE 423)

When the government assumed the task of housing its newly created National Army it called into consultation the foremost town-planners, water-supply and sewerage experts, architects and builders. These specialists, coöperating with the Cantonment Division of the Quartermaster Corps of the army, perfected the standardized plans which have resulted in a building achievement without parallel in the history of the country.



Photograph by Rockford Illustrating Company

THE CANTONMENT A FEW DAYS LATER

"The tales of the mushroom growths of mining camps in the West and in Alaska fail in interest when compared with the story of the creation of the 16 great military cities that today dot the United States"

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THE GOVERNMENT'S AVIATION TRAINING SCHOOLS GROW LARGER EVERY DAY

Carpenters working on new hangars. Each day the demand for more equipment and area becomes more pressing. Skilled aviators are being turned out at the various aviation training posts dotting the country. There is no fear of a recruiting drop for aviation service. The keenest enthusiasm and interest are displayed by the young students who impatiently wait to scale with sky-planes the fighting front.

those camps, where the hodge-podge of European immigration assembles, Pole, Galician, Greek, and Sicilian are woven into the woof of the nation.

But before analyzing in detail the national transmutation brought about by the call to arms, let us consider how the War Department, for the whole of this gigantic work has fallen upon that executive branch of the government, met the physical problem involved.

The tales of the mushroom growths of mining cities in the West and in Alaska fail in interest when compared with the story of the creation of the 16 great military cities that today dot the United States. National life is turned from its channels. Whole populations gather, move, and gather again in new centers to begin life that to them is as new as would be the conditions of the mining camp to the tenderfoot.

HOW THE BUILDING OF 16 SOLDIER CITIES BEGAN

But in the cities of the National Army cantonments no detail was left to hazard. The garish, irregular outline of the bonanza camp, that symbolized its equally loose and careless organization, finds no duplicate where our citizen soldiers train. Everything is regular and in order here, and the first view of one of these camps must impress the selected soldier with the system that created them, the system combining the fundamental element of military life—order through efficiency.

To understand something of the system employed in the construction of the National Army cantonments, it is necessary to go back to the very beginning of the plan of creating the soldier cities.

That plan was the outcome of the pooling of ideas by the best town-planners, water-supply experts, sewerage experts, architects and builders summoned from the length and breadth of the United States to meet and consult together at Washington. When these gentlemen arrived in Washington they found a quartermaster colonel and three assistants struggling with the colossal task of creating 16 cities, each of 45,000 population. These officers had taken over the work in the line of duty, and were pushing bravely forward with the outlines of an organization far beyond the scale of the Steel Corporation.

STANDARDIZATION HASTENS CANTONMENT CONSTRUCTION

The civilian experts volunteered their help, and out of their joint deliberations the plan and specifications of the standardized division cantonment were evolved. In order that the work might proceed with regularity and speed, every detail of construction from the elevation and interior of division headquarters to the specifications for train stables and sheds was fixed to standard. Walls, windows, doors, even locks and hinges, must conform to one model. It was decided to provide for every detail of barrack-building, road-building, sewerage construction, pipe-laying, and street-planning with the greatest care in one model cantonment, and then to let that carefully considered scheme hold for the building of all 16 camps. The ground, or the terrain, as it is called in military phraseology, would in some cases necessitate variation in the outline of the streets of the camps; but the standardized shape was to be similar to the letter "U," division headquarters to be situated at the bend of the letter and the soldiers' houses to spread regularly through the branches (see page 437).

It is seen at once that this plan gives a highly centralized city location. Although the measured outline of the branches of the "U" equal 2½ miles, and sometimes more on the ground, all units are compact in themselves and closely united to headquarters. Of additional military advantage is the fact that the camp is located so that the receiving depots and supply warehouses are built facing railroad spurs, paralleling the long side branches of the "U," thus making for the rapid distribution of supplies in the present, while assuring the facile embarkation of troops in the future.

THE "MAIN STREET" OF THE SOLDIER CITY

This is the ideal outline. Needless to say it has been varied. There are "V"-shaped camps, which maintain the same principle, while Camp Lee resembles a huge "J." These variations are due to the accidents of the ground selected for

BUILDINGS OF THE CAMP TRAVIS CANTONMENT NEARING COMPLETION: SAN ANTONIO, TEXAS

the cantonment; for, as far as practical, buildings are erected along the high points.

The "main street" of the soldier city winds from end to end through the trace of the outline. This is a broad avenue, separating the officers' quarters from the barracks of the soldiers, about 100 feet wide and more than 2½ miles in length. Branch streets, running at right angles to this boulevard, separate the battalions of the division, wider avenues the regiments, these latter serving as "fire-breaks." Remember, in a city where all the buildings are of pine, a fire-break is an obvious precaution.

These battalion and regimental streets are about 200 yards long, and form in themselves compact social areas.

Keeping this general plan of the soldier city in mind, consider the different municipal problems involved in providing homes, food, water, and sanitary accommodations for as many people as live in Atlantic City, or Augusta, Ga., or Haverhill, Mass., or Lincoln, Nebr., or Bay City, Mich., or Sacramento, and you begin to grasp what the War Department has effected in each one of the selected cantonment sites; then multiply by sixteen for the total labor involved.

Actually, the soldier cities were built by contract. Firms of long standing in contracting work involving building in all phases considered the War Department plans. Agreements were reached with reliable firms in the different States where cantonment areas were located, and within three weeks from the time the last blue print of barrack plan was traced, work on all the soldier cities commenced.

A PLACE THAT STOOD STILL FOR HALF A CENTURY

In June, 1917, the site of Camp Lee was much the same as it had been in the days of the war between the States, with one notable improvement—a concrete road 14 feet wide ran through the center of the site, from the town of Petersburg to the Dupont powder plant settlement at Hopewell; but the main feature of the landscape presented the same aspect as when the gray-coated soldiers camped here.

A few scattered farms, wood-covered hills, and stretches of close underbrush patched the gently rolling country. The glistening rails of the Norfolk and Western Railroad trailed over this ground to City Point. The site was as bare of the elements that constitute a city as any farm area you may glimpse from the window of a speeding train. Such was Camp Lee before the first timber was cut or the first nail driven.

Behold today that barren area transformed. In your imagination, climb with me to the top of that spindle-shanked water tower that now dominates the scene. Below us are the shining metalled roofs of a thousand houses; grouped as regularly as battle lines of an army, they stretch away in two curves to the east.

A broad belt of road divides the lines of the houses through the center. On one side of this belt are the low structures of the officers' quarters, the administration buildings, and the hospitals; on the other side rise the soldiers' two-storied barrack buildings. These stand in sets of fours, the number necessary to house a battalion, one barrack to a company. Beyond the company barracks are other structures—a house for the band, the regimental general store (where the soldier can buy anything from a cone of ice cream to a set of safety-razor blades and know that the profits thereof will go toward buying extras for his mess), and the buildings of the Young Men's Christian Association. Flanking these are the warehouses.

EFFICIENCY THE KEY-NOTE OF THE CANTONMENT LAY-OUT

The men who planned these cities sought no æsthetic municipal effect; utility was the key-note throughout, and the grenadier-like formations of the row following row of buildings might be criticised on the score of monotony; but for convenience of the officers and men who are working and training 14 hours each day to the end of creating the National Army, they closely approach the ideal.

The new soldiers live within three minutes' march of their work. They have but to cross the main camp road, pass the officers' quarters, and they parade a drill ground suitable for the work of any unit from a squad to a regiment. In a word, officers and soldiers live with their work.

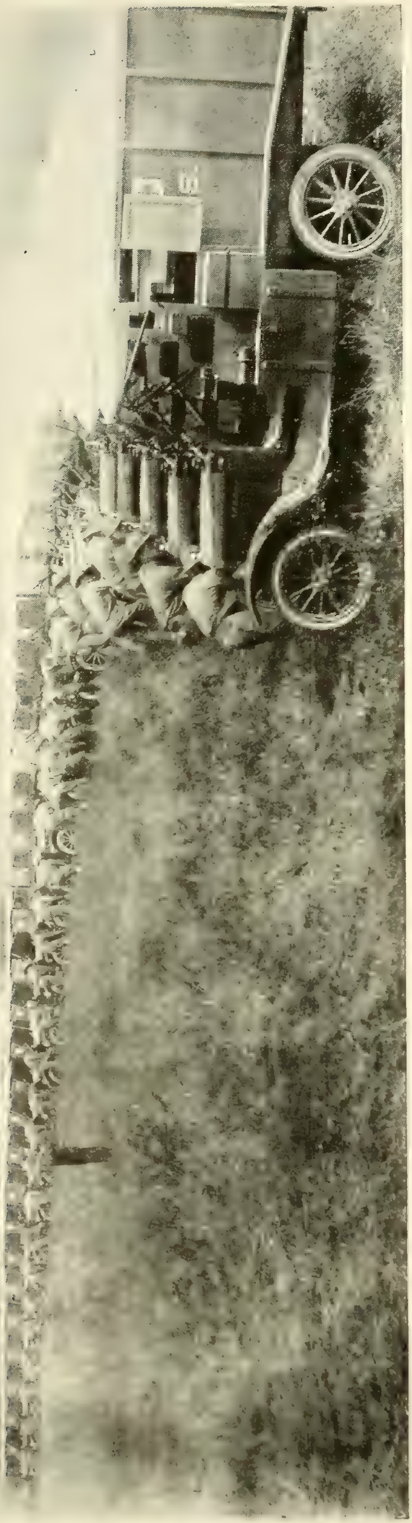
In their unpainted rawness, the houses of this city again bring to mind the new mining camp; but no mining camp ever boasted the water, light, and plumbing installments of the cantonment. You will search in vain for architectural embellishment in any building from one end of the cantonment to the other, but in every barracks and quarters you enter you will find all the items included in the general term modern conveniences—from electric lights to shower baths. These conveniences, which in the United States we have come to look upon in the light of necessities, temper the raw and Spartan simplicity of the buildings.

THE OFFICERS' QUARTERS

The officers' quarters have no advantages not vouchsafed the men, except the very necessary one of privacy. Their quarters are long, low buildings about 25 feet wide by 150 feet long. The battalion commander—remember, the battalion is the cantonment street unit—lives in two rooms at one end of this building, his captains and lieutenants have each one room throughout its length, and in the end is the battalion mess and kitchen. The arrangement is ideal in its simplicity.

Parallel to the row of officers' quarters are the regimental offices, where the colonel, the adjutant, the sergeant major, the supply officers, and staffs conduct the business of the regiment. Here again all is subordinated to utility. Each office is a bare-boarded room, but the never-ceasing tinkle of the typewriters, the ring of the telephones, and the hurrying of orderlies indicate the activities of organization in full swing.

The office buildings face the row of company barracks, the homes of the men of the National Army. All are of the same outline—framed structures, 120 feet long by 40 feet wide and two stories high. At one end of this boxlike building a short extension holds the kitchen. Such is the house where the men sleep and eat; they have all outdoors in which to work and play.



Photograph from Press Illustrating Service, Inc.

"THE MORNING CRANK": AMBULANCE DRIVERS TAKING THEIR MORNING EXERCISE AT MORRISTOWN, NEW JERSEY

Entering the door of the barracks, in the center of its long face, on the left is a door leading into the mess hall. This eating room occupies about half of the lower floor and is separated from the kitchen by a broad serving table.

WHAT THE SOLDIERS HAVE TO EAT

At the meal hours—six, twelve, and six for breakfast, dinner, and supper—the men enter the hall in line and pass around the serving table, where the cooks and "kitchen police," as the helpers are called, pile the metal mess plates with steak, potatoes, rice, and fill the cups with coffee as the men pass. This, with the bread and butter already on the tables, which fill the mess hall, is the average breakfast. Dinner will be stew, with mashed potatoes, boiled onions, peas, bread and butter, a pudding or pie for desert, and tea, coffeee, or lemonade to drink. Supper will consist of fried bacon, cold canned salmon, potato salad, a vegetable, bread and butter, and peaches or some other preserved fruit with which to finish. This is a typical menu for an ordinary day. Whenever the occasion warrants, some little extra is added to the meal. The American soldier is the best fed soldier in the world.

Opposite the mess hall, on the lower floor of the barracks, is the first squad room or dormitory. Here, along the walls and down the center, iron cots are ranged, each with its bed-tick filled with fresh straw. Two olive-drab army blankets cover the bed, and if these are not enough, the soldier will throw his army overcoat over the blankets.

In the original building plans for these sleeping quarters, each soldier was to have a locker to hold his extra shoes, shirts, shaving outfit, and other little knickknacks permitted by the regulations. Being on a war footing, these extras were few enough, but the Surgeon General of the Army struck off the lockers from the barrack furnishings, presumably on the ground they were insanitary, and no substitute has yet been provided. Light and air are the features of the sleeping quarters. About 50 men sleep in the same room.

THE COMPANY BUSINESS OFFICE

Cutting off one corner of the squad room is a small room, about ten feet square, fitted with a desk, a stool, a table, and pigeonholes. From this room the business of the company is administrated. It is the office of the first sergeant.

The second story of the barracks is given over entirely to sleeping quarters, and is large enough to hold in comfort one hundred cots, while in emergency 25 more could be accommodated. The upper story squad rooms in general appearance are similar to large school dormitories.

Many of the men of these Virginia regiments never before saw the luxury of the lavatory conveniences that are built in a small house flanking the barracks—hot and cold shower-baths, wash-boards, every item that modern plumbing provides. Many hotels in the country districts do not boast the style of lavatory here built for the soldiers.

As this is a work army in every sense of the word, in the barracks there is not as much space devoted to recreation purposes as otherwise might be expected. If it were not for army traditions, the mess hall could serve as a lounge, reading and writing room for the new soldiers, and some captains have so far broken with tradition as to allow the men to use the mess hall for these purposes when the kitchen and cleaning work is done. But what with the buildings erected at the instance of the Young Men's Christian Association and the Knights of Columbus, the men of the National Army find a club at the home door.

Beyond the line of barracks is the building for the regimental exchange, which is a sort of village store in each little community, and beyond this is the regimental warehouse, where the clothing and equipment of the soldiers are stored before being distributed.

With this summary of the streets and houses of the soldier city, let us pass to the story of the people living here.

PURE AMERICAN BLOOD AT PETERSBURG

Perhaps Camp Lee, and certainly the 159th Brigade, can claim in its enlisted personnel the purest American blood of any camp throughout the country. Most of these Virginians trace their lineage back to the days of the colonies, and the only noticeable strain that in a few instances colors the Anglo-Saxon is a trace of the Indian.

Should an Englishman read over the localization order for this brigade he might imagine it a call for his home soldiers. Men from Middlesex, Surry, and Kent are in one company; in another Westmoreland, Northumberland, and Northampton have furnished quotas, and scattered throughout the other battalions are soldiers from the counties of Lancaster, York, Warwick, Bedford, Richmond, Sussex, Southampton, and Isle of Wight. Company roll-calls sound like a lesson in English history—Buckingham, Brunswick, Cumberland, Bath, and Halifax—or in literature, for one company has a squad composed of Addison, Arnold, Johnson, and Meredith.

One given to philosophizing would have had much to reflect upon could he have seen these descendants of the first Royal Virginia colonists gathered in a hollow square around the division headquarters flag on the anniversary of the composition of the national anthem and heard them sing the "Star Spangled Banner." That ceremony marked a cycle of civilization.

But this camp is a true cross-section of our country, and it would not be fair to allow partiality for our native stock to blind us to the qualities of the Pennsylvanians and West Virginia miners who are selected for the other units of the division.

THE STORY OF THE SERGEANT WHO SNEEZED

These are the sediment of the melting pot. The description is not meant as a reflection on the quality of the men, but rather for the aptitude of the classification. Among them are found Poles, Lithuanians, Greeks, Syrians, Italians, and even Austrians, who have no place here; all the conglomerate mass of hu-

Photograph by Paul Thompson

A GOODBYE KISS

"Just that break with his home community is the hardest trial the new selected man has to bear. In a night he is torn from his family, his father, his mother, often his wife and children, and translated to an environment at once strange and difficult. He arrives in the cantonment a prey to acute homesickness. Once safely past this term of trial, and the new soldier finds life is a succession of interesting and instructive movements."

manity that during the last decade has made its way to American shores. Instead of the old English names of Cox and Boggs and Padgett that predominate in the Virginia brigades, the first sergeant struggles with a list of polysyllabic letter combinations usually ending in "vitch" or "ski." The report goes that one first sergeant of the Pennsylvania company sneezed during his calling of the roll and six men answered "Here!" This may be soldier's hyperbole, but the fact remains that in many instances the aid of an interpreter is necessary in order to get through the routine of daily work and drill.

But it is just these handicaps that bring out the spirit and ingenuity of the officers training the troops. English or, as some prefer to call our idiom, "good American" is the only language permitted, and with constant molding, with that atmosphere of loyalty which always surrounds a military camp, this heterogeneous element is gradually being absorbed into the sinew of the new army.

American history, patriotism, honor for the flag are all part of the daily instruction of the recruit. Some of the officers have ordered the playing of the "Star Spangled Banner" on the company gramophones to be a daily ceremony; and during this ceremony the men stand with head uncovered at attention.

DEVELOPING THAT SUBTLE SOMETHING—MORALE

All this is by way of developing that psychological asset, morale. It will be news to the layman to hear that there is now a corps of psychologists in the army who are to make a study of the mental and spiritual side of the organization. Before the results of their investigations are available our National Army must be ready to do its share in France, so even when he takes up the physical training of his new recruit the officer begins the training of his soul.

This training is forwarded by subtle steps, so that the recruit's average of morale is advanced without his actually being aware of what takes place. Before he has been with his company two days he boasts that he belongs to Company "A" with that tinge of pride which speaks the germination of loyalty. I heard a recruit of less than a week's service whose O. D. shirt still held the creases of the box, telling a soldier of the 47th New York Militia that he was number one of the front rank of the "E" company of the 317 Infantry, with a pride and condescension that left the usually loquacious Brooklyn soldier speechless.

There is nothing in the Drill Book or Army Regulations that instructs the young officer in the method of instilling this most valuable spirit in his men, but without exception officers work in a hundred ways to develop it. It is the fundamental quality of success in war.

THE WORK OF THE PROVOST MARSHAL'S OFFICE

To return to the initial stage of the changing of the citizen into a soldier, the highest praise is due General Crowder, the father of the National Army. This officer is without exception the hardest working man in the Army of the United States. His capacity for 18 and 20 hours daily work has stood him in good stead in solving the administrative and legal technicalities involved in the operation of the selective training law. His was the work of creating an entire system to meet the will of Congress and the President, in the matter of making our army.

The smooth working of the whole conscription operation is the eloquent testimony of how well General Crowder accomplished his task. Beyond his special ability as a creator of armies—this officer can claim to be one of the few masters of pure English—his conscription proclamation will remain a classic example of the correct and forceful use of the mother tongue.

When General Crowder put the machinery of the call to arms into operation, he opened the flood gates and poured the best physical specimens of our nation into the training camps. No American could see these crowds assemble without feeling the surge of a wave of pride in his nation. Strong, upstanding, clear-eyed, solid men they are, types of the best the country produces.

Photograph from Public Ledger Photo Service

THE FIRST DRILL: CAMP MEADE, MARYLAND

It is, in most cases, the recruit's first experience in military formation and military discipline. If he is from a rural community his attitude toward his company officers at first is apt to be one of suspicion, if not of secret hostility. But in a few days he responds to the spirit of the hour, his latent patriotism is stirred, and he quickly becomes a proud, efficient unit in the army of freedom.

A HIGH ORDER OF MAN MATERIAL

The selected men, as a rule, are far above the average in intelligence and experience and education of the class that formerly drifted into the regular army. Without any disparagement of the older branch of the army, the present recruit, brought into service under the selective law, will improve the tone of the whole service. He is not attracted to the military life from motives of excitement or other motives not so worthy, but he is brought into the army through the operation of a law that does not omit church members from the selected quotas. In the old regiments, church members were the exception rather than the rule.

The tone of the new army can be judged from the interest shown in it by such organizations as the Young Men's Christian Association and the Knights of Columbus.

The captain of the regular army, accustomed to the class of recruits received during the last few years, looks at the present selective army "rookies" with envy. Take a typical company. The age of the 150 men who have already reported averages 24 years and 8 months. The first six squads—that is, the first 48 men in the company—are all over 5 feet 11 inches. Nearly all the professions are represented; a lawyer, a hospital attendant, and a tutor answer the roll, as well as storekeepers, clerks, salesmen, mechanics, artisans, and farmers, not to overlook that very important member of army life—cooks.

One company boasts six cooks, an unheard-of situation in the regular service, where the feeding conditions had become so unsatisfactory under the old system that a professional school of bakers and cooks has been organized of recent years. Graduates of this school are on duty at the camps in order to help out the new men, and I have seen a recently arrived "selected" recruit cook showing a graduate of the bakers' and cooks' school a new wrinkle in frying potatoes.

EVERY TRADE REPRESENTED

With good fortune a captain may find an expert stenographer and typist drafted in his company, who will serve as clerk; carpenters, barbers, tailors, all those useful members of society, will go to make up the quota of 250 men in a company, and it is not rare to find telegraphers, train dispatchers, builders, painters, and workers of all kinds.

When the selected men are mustered into the service, it is the duty of an officer to make a record of their professions and special qualifications, so that by a simple turning to the statistics the suitable men for any work that arises may readily be found. Out of 150 men questioned in one company, 105 could drive Ford automobiles.

The captain of a company is not, as a rule, fortunate enough to find the workable proportion of the qualified men he needs for the smooth administration of his organization, but through the aid of this statistical record he can exchange an extra cook for a stenographer, a superfluous barber for a mechanic or carpenter; for you must understand that a company must be able to maintain an independent, self-contained existence.

MAKING A SOLDIER IN SIX MONTHS

There is an army proverb to the effect that the non-commissioned officer is the backbone of the service, and in the formation of his company the captain first looks for material that promises to make these important soldiers. In this regard, results that seem startling to the old-time regular are sometimes accomplished in the National Army. I have seen a company commander lucky enough to find the raw material for a first sergeant, mess sergeant, and supply sergeant at the first sifting of his selected men; these were men who had held responsible positions as section boss, steward in a hotel, and small storekeeper in civil life, and their training fitted them, with a few weeks' study, to enter on the work of non-commissioned officers in the army. They are far from knowing the niceties of the drill, but their progress is rapid, and out of their experience and innate ability they quickly fall into the rôles of authority.

That the average American can be turned into a good infantryman with six months' training has long been a theory of mine, and I look forward with confidence to seeing this theory confirmed out

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SELECTED MEN ARRIVING IN CAMP, EAGER TO EMBARK UPON THE GREAT ENTERPRISE OF SAFEGUARDING THE LIBERTY FOR WHICH THEIR FOREFATHERS FOUGHT

A small amount of baggage for a round trip to Europe, but Uncle Sam did not encourage the men comprising his new National Army to bring many personal belongings to camp of the results of the training of the National Army.

It must be added, in order to keep the balance true, that the dragnet of draft sometimes brings to the camp men who fall below the standards of the American city or country life. One company recruited from the hills of Virginia has 30 men in 150 who cannot read and write; another eleven. Here is the other side of the picture. But no sooner do these men settle in their companies than they are sent to school—a long-deferred opportunity—and each night, after the drills of the day are ended, they are taught by one of their officers the rudiments of reading and writing. As a national asset, the broadening and educational development sure to result from military training, combined with the mixing with folks from other sections of our country, will outweigh any temporary economic loss. One company of the Virginia brigade mustered a recruit who had never seen an electric light or a trolley system till he joined.

Bear in mind that the sanitary standards of the army are the highest. Here is another educational feature incidental to the training of the selected men in the cantonments. From the moment the recruit arrives in camp, from the moment he is ordered to take a bath before appearing before the surgeon for his medical examination, he is drilled in the details of personal hygiene. In this age of universal hot and cold running water in all cities, one is prone to forget that in some of the rural districts the old-fashioned Saturday night weekly bath is still the custom; and, if any other more urgent matter displaces the bath hour, ablutions are postponed a week.

PUTTING PRIDE INTO THE HILL COUNTRY RECRUIT

The hill districts of Virginia are notoriously backward in educational facilities and all that follows in the wake of schools—instruction in the care of the teeth, the person, the home—and recruits from the feud counties are at first bewildered by the many exactions making for cleanliness in a cantonment; but contact with other clean, smart well set-up soldiers teaches the new recruit the desirable results of cleanliness. The proverb that "cleanliness is next to godliness" is not without its psychological justification, and as an aid to the implanting of discipline it is second only to the refinements of the drill exercises.

As a corollary of this cleanliness of person, the new soldier learns to keep his barracks, his bunk, his kitchen as spick and span as a New England home after spring cleaning. The civilian having only the slightest knowledge of the duties of a soldier knows that a dirty rifle is a military offense, but few understand that the barracks, the soldier's home, the kitchen, the lavatory, and the grounds are inspected each day so that dirt in the sense of grime is foreign to the soldier's existence. The men quickly come to understand the virtue of keeping themselves and their homes free from dirt, and it is certain they will carry this knowledge back to their home communities when their period of soldiering is over.

DOWN IN THE VALLEY OF DESPONDENCY

Just that break with his home community is the hardest trial the new selected man has to bear. In a night he is torn from his family, his father, his mother, often his wife and children, and translated to an environment at once strange and difficult. Habit is the strongest element in the lives of most men, and in wrenching him from his daily habits of eating, sleeping, working, playing, meeting his friends, expressing his opinions, we play havoc with the recruit's world. He arrives in the cantonment a prey to acute homesickness. Many of these men struggle to hold back the tears the first night in camp—some do not wholly succeed—and the first few days of army life seem to promise nothing but misery.

What adds to this gloomy outlook, reducing the selected soldier to a physical state below his mental plane, is the typhoid inoculation and vaccination. From personal knowledge, the writer can pronounce the typhoid inoculation, especially the second dose, a most depressing experience. Add the pain and discomfort of an infected vaccinated arm to this condition, and the morale of the soldier falls to the vanishing point. Here is the time when he contemplates desertion. The guns of a firing squad executing the death sentence—for death may be the penalty for desertion in time of war—would be a relief the woebegone recruit believes.

Once safely past this term of trial, and the new soldier finds life a succession of interesting and instructive movements. He begins to look around him, trying to appraise his companions and those awesome persons, his officers. He soon finds that his companions are of the same pattern as the folks back home, and he gradually comes to realize that his officers are vitally interested in his welfare and comfort.

Work he must, for the making of any army under high-speed demands, leaves little time for loafing, either on the part of soldier or officer. This work is out of doors. It has some of the elements of a game, and the recruit soon perceives the pleasure of executing the drill with accuracy and precision. And when the drill periods are over, he comes to his ample and wholesome meals with a zest that testifies to the daily betterment of his physical condition. By the time his uniform is given him he feels germinating within him the first seeds of pride in himself, his company, his country.

DEVELOPING REAL AMERICANISM

That is the outstanding feature of this selected army, the rapidity with which the men develop pride in their Americanism. It may be that here in Virginia this virtue is present in a higher degree than elsewhere, but under any circumstances its presence is the strongest proof that the whole idea and principle of the National Army is justified. No one can come into contact with the sturdy Americanism of the men gathered in any cantonment without feeling confidence and pride in the future of our country gained in no other way.

And that is the result of all this social and economic revolution brought about by the creation of a National Army. It turns the youth of the country into better Americans. Patriotism develops through the atmosphere of the cantonment. It is practical patriotism, too, as has been proved in the way the new soldiers have bought the latest issue of Liberty Bonds. That the men of the National Army give back to the government part of their pay is tangible proof of their approval of the draft and its consequences. They have had the time to test some of the results of this country-wide sacrifice. Today the selectman is the staunchest advocate of military training. He has learnt the moral value of discipline. The physical benefits he has gained are shown in clear eyes, flexible muscles, and upright carriage.

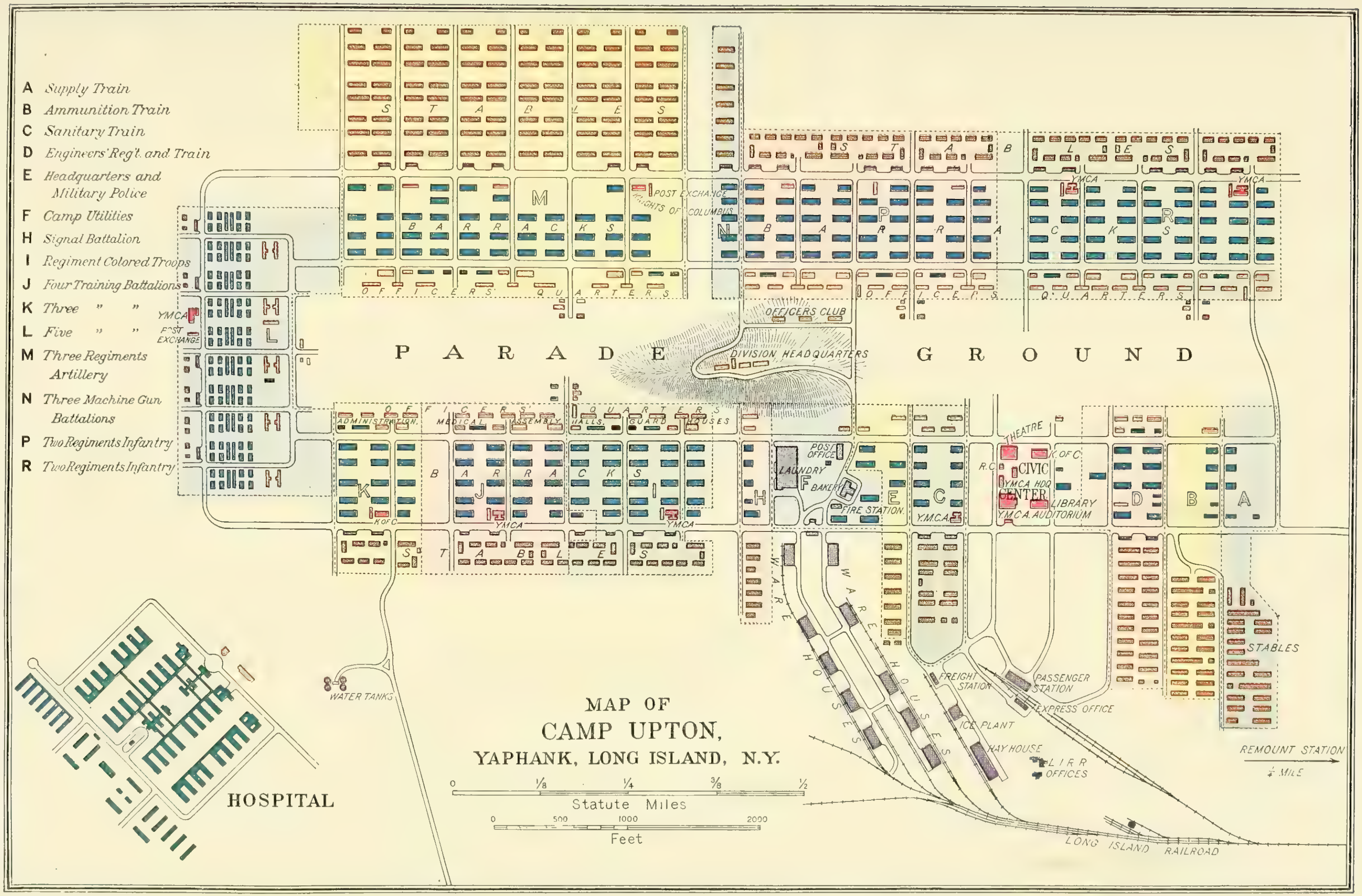
PATRIOTISM NO LONGER A LIP SERVICE

But more than these is the spiritual force that lives and grows in the breasts of the soldiers of the National Army; the value of that force, in the future advancement of Americanism, cannot be totaled in dollars and cents. Patriotism is no longer measured in lip service. Woe to the crafty politician who outrages this spirit now engendering in the hearts of the nation's soldiers by ranting reference to our country and our flag. Men of the new army feel as they never before felt the soul appeal of those words, which have become truly sacred.

Virginia, with so many historical associations as background, is fitting soil for the growth of this new spirit. Camp Lee shelters men of the finest type of Americanism the United States can boast. The training these men receive, the work they do, and the thoughts of what lies before them, make for a strong realization of ideals heretofore but vaguely felt. These ideals are crystallizing into a national consciousness; for what develops here in Camp Lee must develop through the same motive agencies in all the other cantonments throughout the United States.

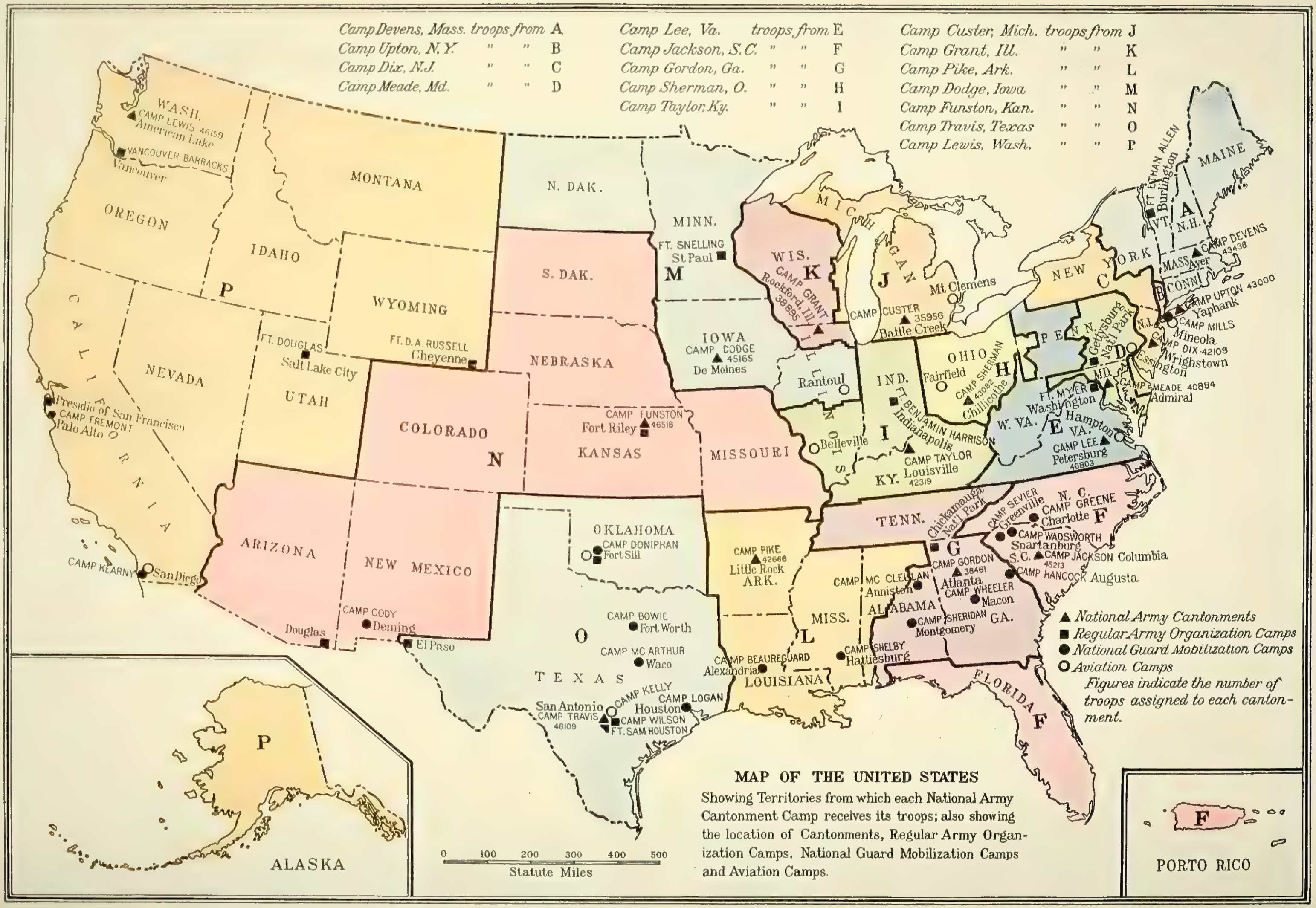
With this quickening of spirit in over a million of the youth of the country will come a pride of race and a sense of national honor that will make the men of the new army worthy guardians of that liberty bequeathed by our forefathers.

And when the last sacrifice is demanded these men will willingly make it, knowing that, both as Virginians and Americans, it is their privilege to die that liberty may spread throughout the world.



DRAWN BY A. H. BUMSTEAD

A MAP OF ONE OF OUR SOLDIER CITIES—See Pages 425 and 426



MAP OF THE UNITED STATES

Showing Territories from which each National Army Cantonment Camp receives its troops; also showing the location of Cantonments, Regular Army Organization Camps, National Guard Mobilization Camps and Aviation Camps.

DRAWN BY A. H. BUMSTEAD

AMERICA'S NEW SOLDIER CITIES

The Geographical and Historical Environment of the National Army Cantonments and National Guard Camps

By William Joseph Showalter

AFTER the Congress had decided on raising a vast army of citizen-soldiers, and had formulated plans for calling that army to the colors, the Quartermaster General was confronted with the problem of housing the army adequately during the long process of converting it from an unorganized multitude of individuals into a highly developed fighting machine.

Colonel I. W. Littell, since promoted to a brigadier generalship, an assistant of General Sharpe, the Quartermaster General, was in charge of that branch of the Quartermaster General's Office known as the Construction and Repair Division, and it therefore fell to the lot of Colonel Littell to take charge of this great task. For years Colonel Littell had gone about his work just as a hundred other colonels had done, and his appointment to the heavy task of housing all the new military forces was his first introduction to the world at large, even as the appointment of Colonel Goethals as builder of the Panama Canal brought a new national figure upon the stage.

There is no record of what Uncle Sam said to the builder of his soldier cities, but the facts in the case would have warranted his giving these instructions:

"I have placed in the Treasury of the United States, subject to your order, a sum of money which is equal to all the gold produced by all the mines of the world during the past year. With this money I want you to house my armies while I get them into shape. In the first place, I want you to build 16 great military cities in as many sections of the country. These 16 cities must be capable of housing a population equal to the combined population of Arizona and New Mexico. There must also be stable room to care for as many horses as there are in the State of Oregon.

"Furthermore, you must establish hospitals to take care of as many sick and wounded people as are to be found in all the hospitals west of the Mississippi River in normal times.

"Nor is that all. You are to provide all of the mess halls and other general buildings for all of the 16 National Guard mobilization camps. And while you are doing that you will not forget your regular work of expanding and keeping in repair the housing facilities of the Regular Army posts.

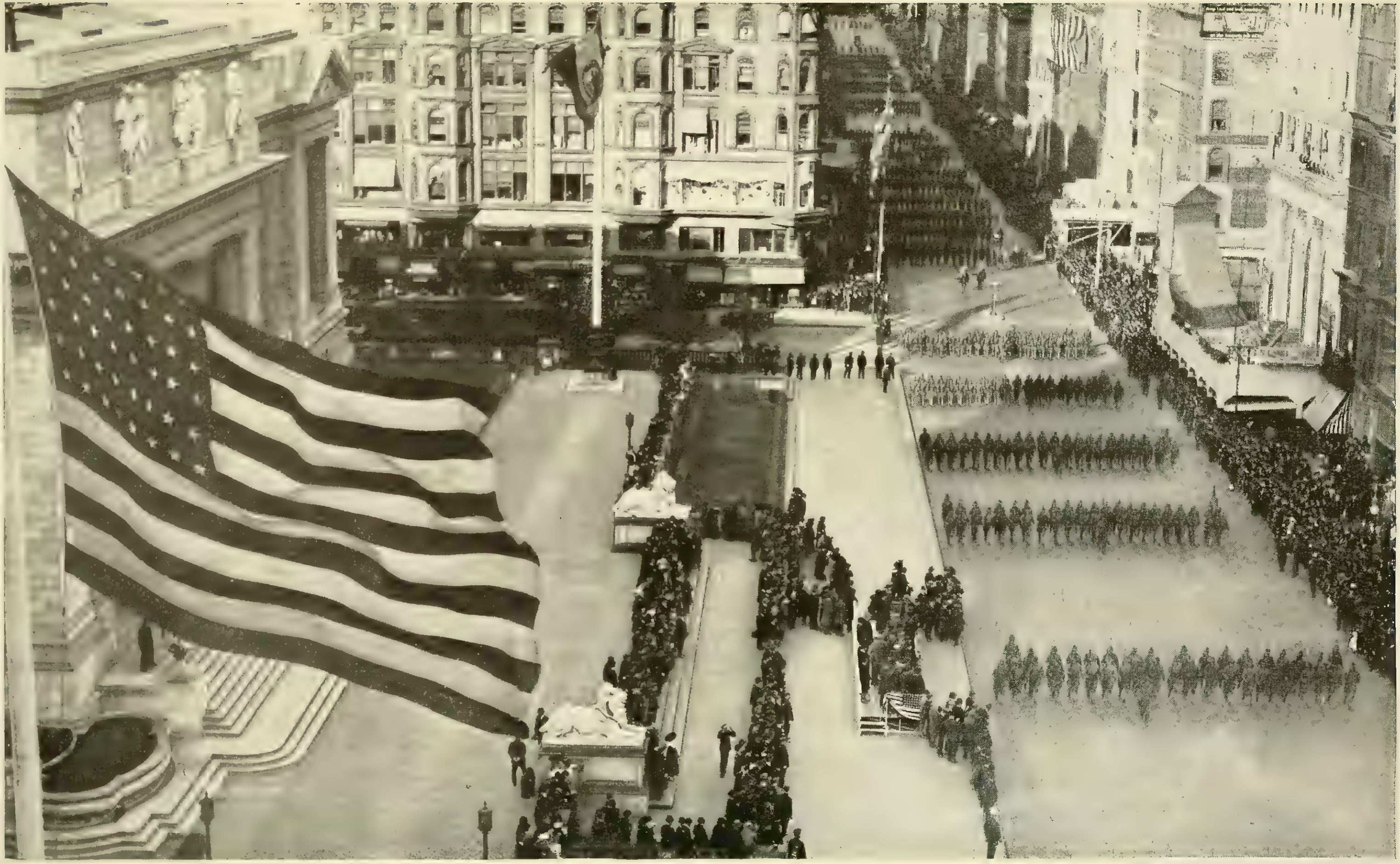
"Nor will you overlook the fact that as soon as all that work is under way you will be expected to undertake the construction of the two big concentration camps from which the American army will embark for France and through which its supplies will reach the front.

"Yes, I know it is a large order—in fact, a tremendous proposition—but these are tremendous times, and I'll have to ask you to execute it within four months. Of course, I realize that you will, in its execution, spend the money three times as fast as the world mines its gold, but at the same time I expect you to render an account which will show that every penny has borne an honest burden."

A NOTABLE ACHIEVEMENT IN THE HISTORY OF BUILDING

Such was the order. It has been executed as the American Army always has executed its orders—to the letter!

The story of the 16 National Army cantonments surpasses anything else in the history of building. Such, indeed, has been the transformation wrought at these cantonments that the world might well have believed it all magic had it not heard the rhythmic blows of 25,000 hammers driving home 1,200 miles of nails a day; had it not seen enough lumber go from the country's mills to these camps



Photograph by Paul Thompson

DEFENDERS OF LIBERTY MARCHING DOWN FIFTH AVENUE

In the unpitying school of experience, America has found that Germany fights with the weapons of intrigue within our borders as well as with blood and iron on the battle-line. In Russia and Italy the secret foe within has done more to harm the nation's cause than the open foe without. So, augmented police departments and well-organized home defense leagues must be America's weapons with which to forefend the country from the results of alien intrigue.

to make a boardwalk four feet wide—runners and all—from Palm Beach to Bagdad via Bering Strait and the Arctic Circle; had it not witnessed the movement to their sites of enough material and supplies to load a string of cars reaching from Portland, Maine, to Portland, Oregon, via Boston, Cleveland, Chicago, Minneapolis, and Spokane.

Consider a weekly pay-roll twice as large as the monthly pay-roll at Panama when the canal work was at high tide, and paid off in two hours, where three days were required to pay off the big ditch force. Reflect upon the fact that the expenditure for the 16 cantonments for the month of August was $52,000,000—nearly nine tons of gold, or more than was ever paid out in a whole year on the Panama Canal, until now the world's greatest undertaking!

IMPORTANT DETAILS CONSIDERED IN THE SELECTION OF CAMP SITES

There were many things to consider in the choice of locations. Each camp had to be contiguous to a city, in order to insure a labor and material market within reach, opportunities for camp leave to mitigate the tedium of the military grind, and satisfactory railroad facilities. The topography of the surrounding country, the available sources of an ample water supply, and the problem of drainage were also important considerations.

Some of the sites departed just enough from level to insure good drainage, and for the most part were fine and prosperous farms, as at Camp Grant, Rockford, Ill.; Camp Sherman, Chillicothe, Ohio, and Camp Dix, Wrightstown, N. J. Others were covered with undergrowth and scrub forest, as at Camp Devens, Ayer, Mass.; Camp Upton, Yaphank, N. Y., and Camp Pike, Little Rock, Ark. Others were on military reservations, as at Camp Funston, Fort Riley, Kans., and Camp Travis, Fort Sam Houston, Tex. At Camp Lee, Petersburg, Va., 25 farms were occupied. At Camp Jackson, Columbia, S. C., a negro church had to be razed and several old tobacco barns burned.

With the sites selected and 160 of the biggest sawmills in the United States turning logs into planks, joists, rafters, and studding at an incredible speed, the cities themselves were ready to begin rising from the ground.

The railroads of the country, already sore pressed for rolling stock, already taxed to what seemed well-nigh the limit of war-time demands on peace-time facilities, set aside 30,000 cars for cantonment material transportation, and vast quantities of lumber were moving east, west, north, and south to the camp sites. In a single day there was unloaded at Des Moines 1,890,000 board feet of lumber, the equivalent of 300 miles of 12-inch boards.

One day a one-story office building, some trenching machines, some teams and trucks, and a chaos of materials, and in 48 hours a respectable village. In two weeks the village had grown to a town, and in two months the town became a city.

How the work marched along may be told in the story of Camp Funston. On June 20 a contract for the building of the cantonment was let. For the next 15 days there was little done, because the site was not definitely chosen. There were four available sites on the Fort Riley Reservation, and a civilian board was named to select one of them. The decision was not made until July 5.

Meanwhile the local construction quartermaster, having an inspiration that the site which was finally chosen would be the one, as well as a feeling that taking a chance was better than living out a delay, told the contractor to erect buildings for the quartermaster, the field auditor, and the contractor. These were ready when the site was fixed, and were the only buildings standing on July 5 when the real work began. By July 10 the Union Pacific Railroad had a siding completed two miles long, and later installed more than eight miles additional.

WORKMEN QUARTERED IN CAMPS THEY WERE BUILDING

The buildings followed the standard plans from Washington, which specified that all northern cantonment structures have outside walls and ceilings lined with paper, and that they be wainscoted and lined inside with wall board; all lavatory buildings should have concrete floors and foundations (see also pages 425-427)

The men at Camp Funston did not stop for Sunday, but worked 10 hours a day seven days a week, with Saturday afternoon off. They worked 65 hours a week and were paid for 80 hours, at Kansas City union labor prices.

Four thousand eight hundred men were housed and fed at Camp Funston when the work was in full blast. The government allowed them to be quartered in buildings which were already finished, except for the wall board work and top flooring inside. Three hundred commissary employees, cooks, waiters, and room attendants were required to care for that half of the force which lived at the cantonment, the other half living in neighboring towns and surrounding country.

The army of builders ate two carloads of beef a week and other things in proportion. Meals were furnished at 30 cents each, the men being required to purchase a week's tickets at a time. This was exactly the rate charged the Americans at the line hotels on the Panama Canal. Quarters were provided free, except that each workman upon first entering the bunk-house deposited a dollar, which was returned to him when he finally left the job.

Special efforts were made to keep the workmen contented and happy. One of the barracks was turned over to the Y. M. C. A., which established outdoor motion-picture shows, where three times a week the best films were shown, free to all comers. A band and an orchestra were organized and baseball teams were equipped.

CAMP NEWSPAPER STIMULATED MEN TO SPECIAL EFFORT

The spirit displayed in the construction of all the cantonments was an inspiration to every one who witnessed the work. A healthy rivalry among the 16 contractors was in evidence everywhere. The contractors at Camp Dix published a construction weekly, which served to fire the zeal of the men there, even more than the *Canal Record* stirred the big army of diggers at Panama. In the *Camp Dix News* the editor put everything of interest to the force, from a description of the cantonment and the week-to-week story of the work's progress, down to a picture of a bare-skinned Chihuahua dog, the camp mascot, and a piece of advice to an unnamed youngster working in camp not to neglect writing to his mother.

Through this newspaper the contractors appealed to their men to help put Camp Dix "first under the wire" of completion. "There are 16 entries," said the appeal, "in the most spectacular race that American contractors have ever been called upon to enter. We have a good start and a fair field and we need only supply the stamina." So, even in building good sportsmanship had its place.

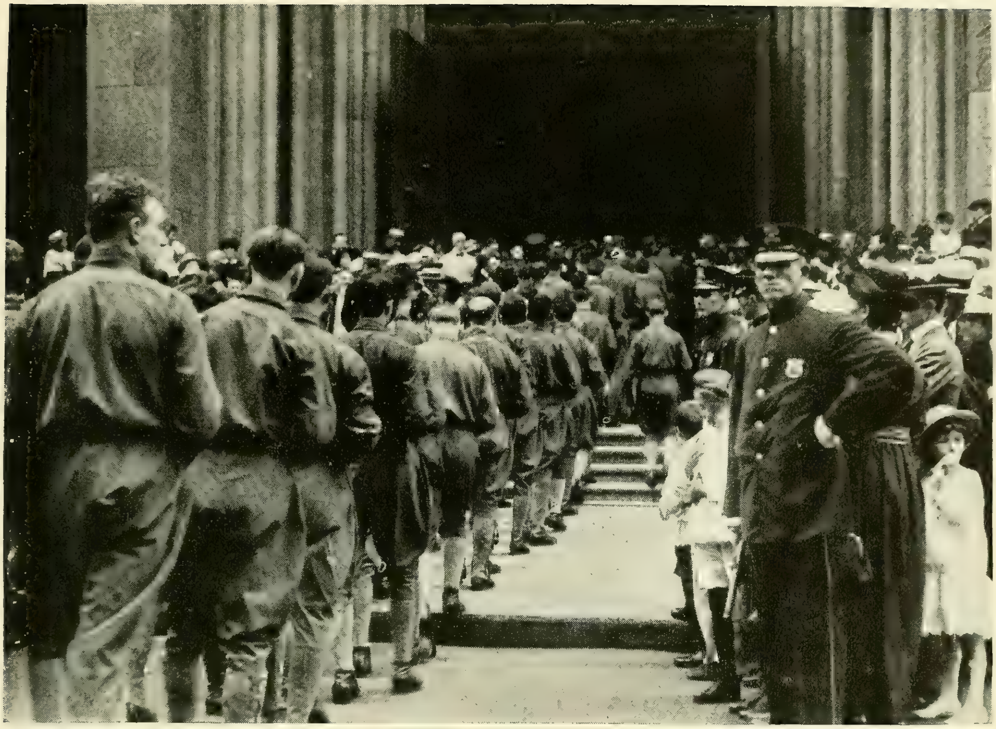
MEN BEHIND THE HAMMERS IMBUED WITH PATRIOTIC SPIRIT

The men behind the hammers soon caught the spirit of the times. At Camp Dix the contractors divided their organization into 10 groups, each with a section of the camp to build. Soon the 16-cantonment national sweepstakes event had a side attraction—the 10-section Wrightstown race. Each group at Camp Dix was as keen "to put one over" on its rivals as each contractor was to bring his cantonment under the wire first.

One day one of the competitive groups of camp builders bethought itself of the fact that there ought to be a flag flying over its section. The hat was passed, and from water boy to section superintendent all "chipped in" to buy a starry banner and a flagpole.

With telegrams from the President and the Secretary of War to be read, with speakers of note to set the event in an appropriate wreath of words, and with a band to bring the thrill which the national anthem inspires, Old Glory was hoisted into place. Soon every other section had its flag, each raised with appropriate ceremony, and all unfurled to the breezes through the initiative of the hard-working carpenters themselves.

There was coöperation everywhere. Even the thousands of negro laborers at the Southern cantonments became imbued with enthusiasm for their work and heartily supported every effort to keep the camp sites up to the 100 per cent mark in sanitation, although sanitary science is well-nigh a sealed book to them. Can



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THE SIXTY-NINTH REGIMENT GOING TO A SERVICE AT ST. PATRICK'S CATHEDRAL, NEW YORK CITY

Whatever may be the sacrifices, however bitter the sufferings that await our country on the path of war which she has so unwillingly yet so resolutely taken, one compensation cannot fail to result from the experience of seeing her bravest and best dedicating their lives to the Great Cause. That compensation will be a refined and ennobled American soul.

you imagine several thousand Virginia negroes, in the midst of the watermelon season, with the Hanover crop in all its luscious luxuriance hard by, and not a rind to be found on a camp site thousands of acres in extent? It may have tried their souls to abstain, and yet the site of Camp Lee was as free from watermelon rinds as it was free from polar bears or African lions.

ONE CAMP BAKERY'S CAPACITY 80,000 POUNDS OF BREAD A DAY

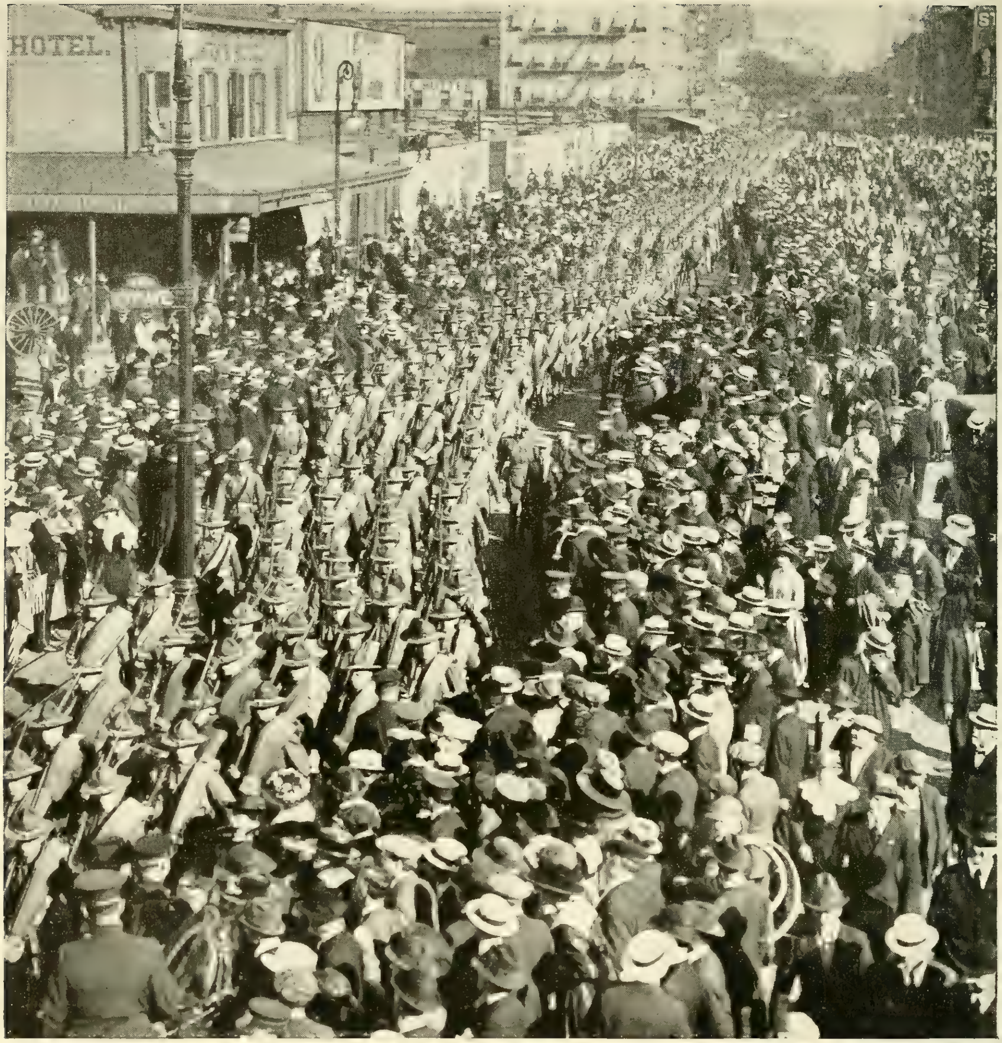
With such a spirit as this pervading every cantonment, little is the wonder that in less than four months enough buildings were erected to make, if placed end to end, a continuous structure reaching from Washington to Detroit.

To appreciate the dimensions of the cantonments they must be considered in their units. Camp Devens, for instance, with one exception the smallest of the 16, has a refrigerator plant capable of making 20 tons of ice a day, besides keeping many tons of food chilled to the freezing point. Its beef cooler will hold 120 cattle. The bakery has a capacity of 40,000 2-pound loaves of bread every 24 hours. The auditorium of the Y. M. C. A. has a seating capacity of 2,800 men—nearly one and a half times as many as any theater in the nation's capital.

In small things as well as large the story of the military cities runs into amazing proportions. The 16 cantonments required 350 carloads of cooking ranges for their equipment, 2,500 carloads of heating stoves, and 112,000 kegs of nails. Sold at ordinary retail price, the total product of their bakeries would amount to something like $125,000 a day.

MAKING WASTE PAY

A problem which early arose in planning the cantonments was that of dispos-



Photograph by Paul Thompson

SEVENTH NEW YORK REGIMENT BOARDING THE FERRY TO GO TO SPARTANBURG

The National Guard forces have been mobilized in 16 tented cities (see pages 467-475), where all is canvas except mess-halls, Y. M. C. A. buildings, etc. Long before the present war was dreamed of, these men believed that America's safety lay in the direction of preparedness, and undertook to give a share of their time to putting their opinions into practice. And the account the National Guard troops in France have given of themselves shows that the time they sacrificed at home is turned to Uncle Sam's benefit abroad.

ing of the wastes. Had it been decided to burn the garbage and other refuse of the camps, the installation of huge incinerators would have been necessary; but happily the idea of the salvage of wastes, something of which armies never thought before this war, was conceived by a National Guard officer from Delaware.

This officer wrote the War Department saying that from his experience in handling troops he believed a great saving could be accomplished by collecting and selling all garbage and refuse.

The suggestion appealed to the Quartermaster General, and the Delaware officer was called to Washington and assigned the work of developing a plan to conserve the waste materials at the several cantonments.

Under his plan all such materials are sorted and placed in separate cans—one for garbage, one for bones, another for fats, another for grease, and others for paper, tin cans, bottles, etc.

The garbage from 13 of the cantonments is fed to hogs. Experience has shown that the garbage incident to the feeding of from 10 to 15 men will feed one hog. On this ration it has been found that the hogs take on a pound of flesh a day for the first 150 days. The garbage from a cantonment is, therefore, sufficient to feed approximately 4,000 hogs, which would show a gain of more than 9,000 tons of meat per year for the 13 cantonments, if the stock is kept up to the maximum number. In the three remaining cantonments the garbage is reduced to grease, which is used in the manufacture of soap, candles, and glycerine.

The bones gathered will first have the grease extracted and then will be ground into bone-meal for fertilizer. The bottles at each cantonment will be sorted, sterilized and used again for commercial purposes. It is estimated that each cantonment will yield about five tons of waste paper a day.

The waste materials from the National Army cantonments and embarkation camps have been sold to contractors for $446,000. In addition to this, the stable manure has been sold for $198,000, making a total of $644,000. Thus not only has there been a salvage of nearly $700,000 from wastes, but an additional saving of $700,000, which, under the old system, would have been expended in the installation of incinerators. To this must be added the saving of $362,000 in the annual cost of operating these incinerators.

HOW DIRT HAS BEEN OUTLAWED

If an army marches on its stomach, it keeps itself in health by its water supply. Nowhere else is cleanliness such a virtue as in the life of the soldier. Until that lesson was driven home by the ever-higher ratio of deaths from disease than from gun-fire, the value of water, good water and plentiful good water, was not appreciated. But when wars were over and statistics analyzed it was found that more men were killed and injured in their battle with uncleanliness than with the foe in front of them.

So dirt was outlawed. Uncle Sam provides in his big cantonments, his training and concentration camps, a water supply capable of meeting any demand that the ends of cleanliness may make. The story of the construction of the water systems of the several cantonments may be told in general terms by describing the system at Camp Dix.

The supply at that camp comes mainly from New Lisbon, more than three miles distant. It is taken from the north branch of Rancocas Creek, the headwaters of which drain wooded, uncultivated land, on which cedar, scrub oak and pine grow. The soil is black and white sand, and through it the water percolates into the drainage substrata. In many places the cedar predominates, and the water coming in contact with its needles and roots is given a slight amber tinge and acquires a faint but pleasant cedar taste.

GIANT TRENCHING MACHINES USED TO LAY WATER MAINS

The three pumps which lift the water out of the creek and drive it three miles across country and up into the huge storage tanks of the camp have each a daily capacity of 1,500,000 gallons of water. Each pump is driven by a steam turbine which occupies scarcely more space than the chassis of an army motor truck, but which is powerful enough to do the work of a thousand men. Every minute of the day and night, it drives a thousand gallons of water up a figurative hill 245 feet high, to the top of the highest water tank in Camp Dix; and it has to fly around at the rate of 83 revolutions a second to do its work.

A 16-inch cast-iron water main, more than three miles long, carries the water to the camp. Giant trenching machines, walking forward at the rate of 120 feet an hour, dug a ditch up hill and down dale four feet deep and 20 inches wide. After the trenching machine came the pipe-layers and caulkers, and behind them the trench-refilling machine, which brought up the rear of the procession, with a filled ditch dragging out behind it.

A giant steel tank 127 feet high, on the camp site, holds 200,000 gallons of water and each of three reserve wooden tanks holds a similar volume. From these tanks the water is conveyed to more than 10,000 faucets, sinks, shower-heads, water-closets, and fire-hydrants by 28 miles of pipes. And these figures are exclusive of the remount station and the base hospital water systems.

It was originally planned that the main pipe line should be of California redwood stave pipe, so as to spare iron for more warlike purposes, but the wood did not arrive fast enough and iron mains had to be requisitioned. Redwood pipe was used at as many of the camps as traffic conditions would allow, for not only does water flow through wooden pipe with less friction, and therefore in greater quantity for a given diameter of pipe, but it keeps cooler in summer and is less liable to freeze in winter. Redwood pipe has been known to be serviceable even after half a century of use. The staves are held together by heavy galvanized wire wrapped at a tension of 7,000 pounds. Before being laid, the pipe is coated with asphaltum.

Despite the utmost precautions taken to insure the purity of the water supply and the elimination of the menace of contamination from sewage, and in spite of all that is done to hold contagion in check by vaccination and isolation, men in the army still need hospitals. There is no place for home nursing in company barracks or officers' quarters.

THREE HOSPITAL BEDS FOR EVERY HUNDRED MEN

Each cantonment has at least 1,000 hospital beds, and some have 1,600. It is estimated that, with adequate provision for emergencies of training-camp life, three beds will suffice for each 100 men.

Eternal vigilance is the price of health in the army, and each hospital is equipped with the most modern of laboratories, where water specialists, food specialists, meningitis specialists, typhoid specialists—in fact, every kind of specialists—labor who can aid, with argus-eyed microscopes, in the great work of detecting anything and everything that might threaten the health of the men. Above all things, Uncle Sam is determined that the men he has called to the colors shall have but one enemy to fight, and that disease shall not be permitted to play the rôle of ally to the foe.

WHAT AN AROUSED DEMOCRACY CAN DO

The building of the military cities to house American armies while on the home soil was an unprecedented task, executed in the face of unheard-of difficulties, with unrivaled speed and in an unparalleled spirit. It is America's answer to the world that has mistaken her natural love of peace for an unwillingness to go to war, even for its preservation. It shows what a democracy, aroused to necessities of the hour, can do. It shows that the genius of organization, which is the secret of twentieth century success in war, dwells under American skies, and that the spirit of '76 never dies, but only lies dormant in the years of peace.

THE NATIONAL ARMY CANTONMENTS

CAMP DEVENS

The cantonment at Ayer, Massachusetts, known as Camp Devens, houses the forces of the National Army drawn from New England. It lies to the north of the town of Ayer, on a site that was largely occupied by second-growth scrub timber. The ground is open and porous, as well as rolling, thus insuring good drainage. The site was selected with an eye to having a force quartered near Boston, which is only 30 miles away, to defend that city in the event of any military emergency.

The town of Ayer has an unusual history, as the history of New England towns goes. It is one of the most youthful of all the municipalities east of the Hudson River, having acquired a corporate existence and a name in 1871. The railroads of northern Massachusetts found convenient crossing points in that neighborhood. First there came a signal tower, then a village, and then a community, which tired of being called "The Junction" and wanted a real town name.

This camp has the lowest average temperature of any of the cantonments. On the other hand, it has more cloudless days than any other with the single exception of Deming, New Mexico, which is in the "sunshine belt" of the South-

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PLAY-TIME IN CAMP

Friendships between men from different parts of the country, soundness of body developed by sport, drill and good food, better standards of hygiene instilled by military life, education through schooling and through broadened experience—all these must be credited to the account of the United States with War when the National Army returns to civilian life.

Photograph from Young Men's Christian Association

AN AVERAGE CROWD IN AN ARMY Y. M. C. A. BUILDING

From eight to twelve Y. M. C. A. buildings similar to this are required at each cantonment and National Guard camp. These buildings could not be started until the government's needs were served and the barracks, hospitals, stables, etc., were completed, but the Association was on the ground with the first of the drafted army, and the tents, abandoned houses, school buildings, and makeshifts where it began work were crowded from the first.

west. Camp Devens' average temperature is 47 and it has an average of 200 cloudless days a year.

The smallest except one of the 16 cantonments, Camp Devens is larger than the neighboring cities of Taunton, Waltham, Quincy, and Pittsfield, being in a class with Fitchburg and Newton.

The men who get camp leave are in easy reach of many places famous in American history. Concord and Lexington, Cambridge and Charleston, and a hundred other places are there to stir men's souls to the spirit of the hour, and to enable officers to say in 1917 what Captain Davis said in 1775, in America's first battle for liberty against a German king: "I haven't a man that's afraid to go."

Camp Devens is named in honor of Brig. Gen. Charles Devens, a native of Massachusetts, whose distinguished services before Richmond in the Civil War brought him the brevet rank of major general. He was Attorney General of the United States under President Hayes.

CAMP UPTON

Camp Upton, which houses the National Army troops from the metropolitan district of New York City, is situated in the very heart of Long Island, about half way between Brooklyn and Montauk Point and equidistant from the sound and sea. It is on the Long Island Railroad, between the villages of Yaphank and Manorville. The region around the camp affords the usual Long Island scenery—a broad, open, level landscape, with many flourishing villages and well-kept country places.

Between New York and Camp Upton lies what has been pronounced the most intensely cultivated region in the United States. The soil is rather poor, but the proximity of the greatest market in the country makes this region a medium par excellence for transforming sun and soil, fertilizer and water, into market vegetables. At no point on Long Island is there an elevation of more than 391 feet and the temperature rarely falls below zero and seldom goes above 90, owing to the tempering influences of the sea. Snow usually lasts for a few days only, and the spring temperature is nearly always 5 degrees above that of the mainland. It ranks third among the cantonments and camps in the number of cloudless days, having an average of 188 a year.

Camp Upton is situated in a striking region. The whole island is founded on rock, although it outcrops only at Long Island City and Astoria. During the glacier age a vast sheet of ice from five to ten thousand feet in thickness flowed out from the region of the Great Lakes and shaved a pathway to the sea, in a southeasterly direction, overflowing the highest mountains of New York and New England, as is shown by the fact that to this day evidences of its eroding passage are to be found on the summits of these mountains.

Before this moving mass of ice all life disappeared. The glacier moved very slowly, perhaps not more than 100 feet a year, or a mile in 50 years. After a journey lasting 25,000 years, it reached the ocean and the vast wall of ice stretched across the Atlantic border from New Jersey to the Arctic Sea.

A huge mass of earth and rocky debris, known as the terminal moraine, piled up in front of the glacier. The ice melted and the debris, which had been scraped from the mountains, was dropped, a portion of it now forming the backbone of Long Island. Again the ice advanced, going just a little farther the second time, and the second range of hills was formed, extending from near Huntington to Montauk Point and Block Island, and including the region surrounding the site of Camp Upton. Much of the debris of this second melting was in the form of a very thick mud, which flowed southward toward the sea and formed the present slightly sloping and very fertile plains of the island.

There are historical associations on Long Island as interesting as its geological history. At Easthampton stands the house in which the man who wrote the hymn common to the English-speaking world, "Home, Sweet Home," was born—John Howard Payne. This cottage is a modest structure, standing on the main street near the center of the village.

At Huntington, not many miles from

Photograph by Paul Thompson

SHAVING A MAN WITH A STRONG BEARD

No, a drawing-knife is not the usual implement with which the company barber removes the soldier's beard. But it does help make a fine picture to send to the folks back home

Camp Upton, is a monument commemorating the unselfish devotion of Nathan Hale to his country when General Washington entrusted to him the task of ascertaining the movements of the enemy. After gathering the information he was betrayed and taken to New York and hanged. His last words were: "I regret that I have but one life to lose for my country." Many a Camp Upton soldier will journey hither and repeat those words in his heart as he dedicates his life to the duties of the present hour.

Camp Upton is named in honor of Col. Emery Upton, who was born at Batavia, N. Y., in 1839 and was graduated from West Point in 1861. He was three times wounded in the Civil War—at Bull Run, at Spottsylvania Court-House, and at Opequan. For gallant conduct at Winchester under General Sherman, he was brevetted major general of volunteers. After the Civil War he served as lieutenant colonel of the 25th Infantry, Regular Army, and later as colonel of the 4th Artillery. He prepared a system of tactics for the service, and from 1870 to 1875 was commandant of cadets at West Point. His writings pertaining to military preparedness are classics of their kind.

CAMP DIX

Camp Dix, where the National Army from western New York, New Jersey, and Delaware is in training, is located near the town of Wrightstown, N. J., on the Delaware River side of the watershed that divides the State into east and west Jersey. The elevation above sea-level is approximately 100 feet.

One would have to travel far to find more beautiful fields or better-kept farms than those which had to be transformed into a training camp for the Jersey and neighboring troops.

Stretching across the State from the Atlantic Ocean below Sandy Hook to Salem, on the Delaware, and passing through Burlington County, in which

Camp Dix is situated, is the marl region of New Jersey. The marl (an earthy, crumbling deposit consisting chiefly of clay, and greatly valued as a fertilizer) is found at various depths and sometimes lies in beds 30 feet or more thick. The ground above it is rich and highly productive.

When the construction forces started to work on the buildings for Camp Dix they found themselves among great fields of growing corn and ripening wheat. Some of the farmers were very reluctant to move away from homesteads which had been in their families since the days before Washington crossed the Delaware; but the military authorities were patient with them and afforded them every consideration that the exigencies of the hour would permit. It is told that one farmer took the money he received and made a long-deferred trip with his family to the West. When he came back the transformation was so marked that, although he and his father and his father's father had lived and worked upon his farm, he found difficulty in finding his way around.

While Camp Dix is situated in a rich agricultural community, it has the advantage of being contiguous to the pine-barren regions, where ideal grounds for target practice are available. Thousands of acres of these pine barrens have been cleared, so as to permit the training of men in the handling of big guns, as well as small arms.

Gen. John A. Dix, in honor of whom this camp was named, was an ensign in the War of 1812 at the age of 14, and lived to become major general of volunteers in the Civil War. As the President of the Union Defense Committee during the latter conflict, he organized 17 regiments and was instrumental in saving Maryland for the Union. At the outbreak of hostilities he was Secretary of the Treasury. Two revenue cutters were ordered home from New Orleans by him. One of the commanders refused to obey. He was ordered placed under arrest, and Secretary Dix telegraphed the now famous command, "If any one attempts to haul down the American flag, shoot him on the spot."

CAMP MEADE

Camp Meade was built for the National Army forces drafted from eastern Pennsylvania, Maryland, and the District of Columbia. It has a housing capacity greater than that of any city in Maryland except Baltimore. Indeed, its population is twice as large as that of the State's second city—Cumberland.

Situated midway between Washington and Baltimore, the climatic conditions are largely the same as those prevailing at Camp Dix, New Jersey. The average annual temperature is 58, and there are 131 days of cloudless weather a year, with 124 days partly cloudy.

The region around Camp Meade is a quiet, pastoral community, but when the men secure camp leave they are only an hour's ride from Baltimore or Washington. Only a little more than 20 miles away is Annapolis, capital of the State and dear to the heart of every American as the home of the U. S. Naval Academy, where such defenders of the Nation's flag as Farragut, Dewey, Sampson, and Evans were graduated. Within 50 miles as the crow flies are Gettysburg and Antietam, two of America's greatest battlefields.

Camp Meade was named in honor of Maj. Gen. George Gordon Meade, the commander of the Union forces at the battle of Gettysburg, where the tide was finally turned against the Southern Confederacy by the defeat of Gen. Robert E. Lee's forces and the shattering of Southern hopes of success on Northern soil. General Meade was born in Cadiz, Spain, of American parentage, the year that Napoleon was defeated at Waterloo. After the war citizens of Philadelphia presented him with a house, and after his death, in 1872, a fund of $100,000 was raised and presented to his family as a testimonial to his services in saving the Union.

CAMP LEE

Situated three miles due east of Petersburg, on the electric railroad to Hopewell, the magic munition city, and on the Norfolk & Western Railroad's main line to Norfolk, Camp Lee, housing most of the troops of western Pennsylvania and all of those from Virginia and West Virginia, is, with the single exception of Camp Lewis, the largest of all the National Army cantonments. It accommodates 46,400 men, which makes it the third municipality in point of size in the Old Dominion. Only Richmond, the capital, and Norfolk, the chief seaport, are larger. It is twice the size of Newport News, which is doing so much in forging America's answer to submarine losses. The climate is fairly equable, the average annual temperature being 58 degrees, as compared with 47 at Camp Devens, 51 at Camp Upton, and 54 at Camp Dix. About 139 days of the year are clear and 118 partly cloudy (see page 421).

The geography of the Petersburg region made it important in the history of the nation. Situated on the Appomattox River, 20 miles from its confluence with the James, it is the converging point of all the main highways and railroads from the south, the southeast, and the west. Its strategic value gave it a rôle in Revolutionary operations and made it in many ways the key to the Confederacy.

The region in which Camp Lee is located is richly historic. Twenty miles north is Richmond, capital of the Confederacy. Less than forty miles away, is Jamestown Island, scene of the first permanent English settlement in America. A few miles farther will bring the pilgrim to Williamsburg, where met the first elected legislative body in America. Fifty miles to the east is Yorktown, where the French threw the weight of their arms heavily in the balance and helped America achieve her independence. Only 60 miles away is Newport News, with its big embarkation camp from which the men who are now training will sail for France and the fighting front.

Camp Lee was named for General Robert E. Lee, the brilliant chieftain of the Southern Confederacy, who, born in 1807, the son of "Light Horse Harry" Lee of the Revolutionary Army, lived to become universally acknowledged one of the great captains of military history.

CAMP JACKSON

Located in the heart of South Carolina, with its southwestern corner only four miles from Columbia, the State capital, Camp Jackson, where the National Army troops from the two Carolinas will train, has a mild climate, with an average temperature of 63. The weather conditions are similar to those on that part of the French front where it is expected American troops will be sent. The camp site is drained by Gill Creek, and Wildcat Road had to be closed for more than two miles to permit the building of the cantonment.

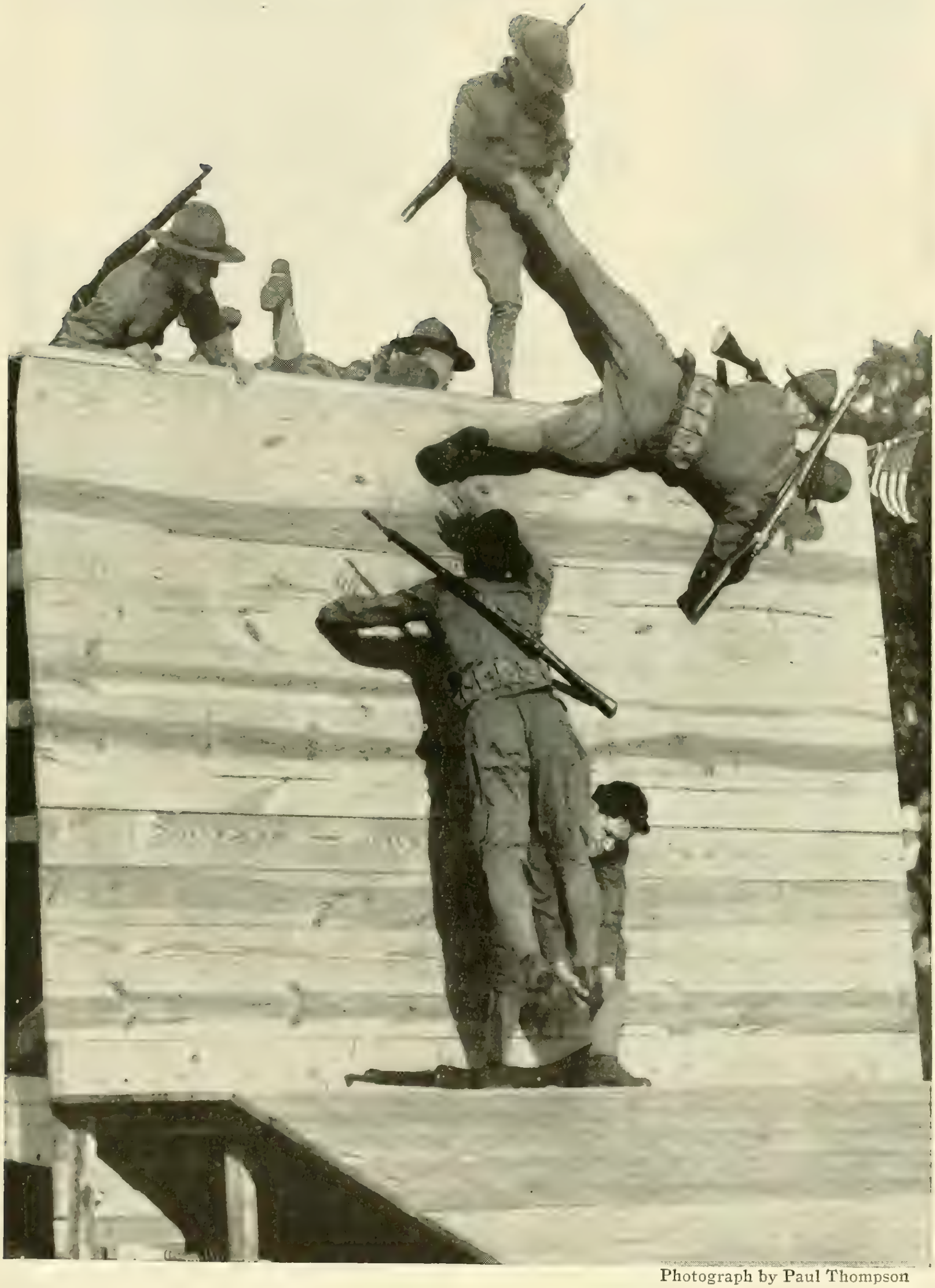
Camp Jackson is within 100 miles of the National Guard Mobilization Camps at Charlotte, N. C., Spartanburg, S. C., Greenville, S. C., and Augusta, Ga.

Columbia is South Carolina's railroad as well as geographic and political center. It is located on the east bank of the Congaree River, at the head of navigation, and is on the dividing line between what is known as the red and sand hills region and the piedmont district. It is in a section noted for its sanitariums and winter resorts.

Camp Jackson is named in honor of Andrew Jackson, seventh President of the United States. North and South Carolina both claim to be the State of his birth. North Carolina says he was born in the Waxhaw settlement, in Union County, N. C., while South Carolinians claim that distinction for a spot near Waxhaw Creek, in Lancaster County, S. C. Jackson always gave the latter as his birthplace, and his most thorough biographer thinks that the weight of evidence favors his South Carolina origin. His father died in Union County a few days before his birth, and his mother went to live with her sister in Lancaster County. The controversy hangs on the issue of whether he was born before or after the mother went to her sister's home.

CAMP GORDON

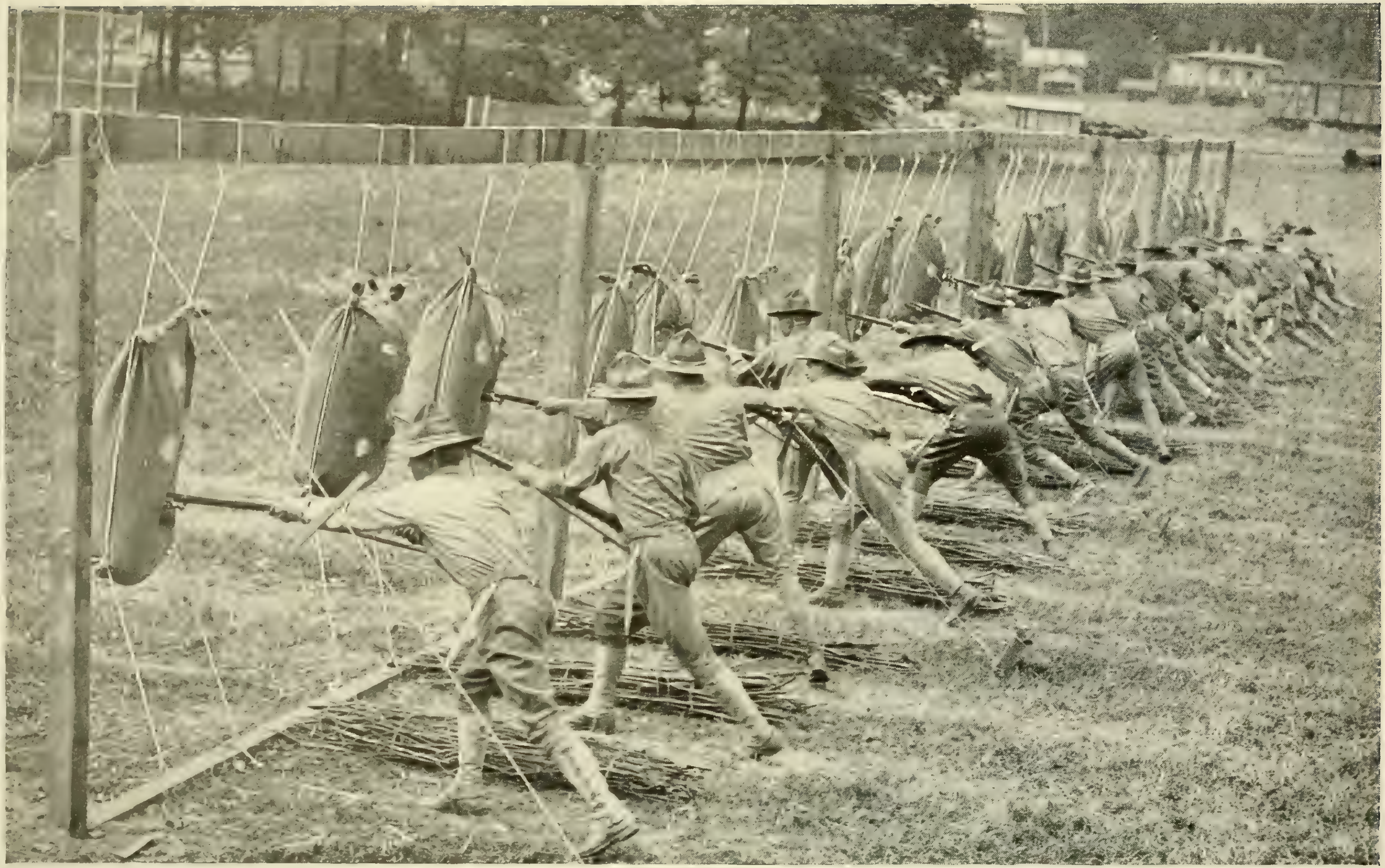
Camp Gordon, where the National Army forces from Georgia, Tennessee, and southeastern Alabama are being trained, is situated 9½ miles north of the heart of Atlanta, Ga., on the main line of the Southern Railway from Washington. In the extreme northwest part of the camp is Silver Lake, one of the most beautiful bodies of water in the South. At the gate of Camp Gordon are Oglethorpe University and Humphries Park.



Photograph by Paul Thompson

WALL SCALING: CAMP WADSWORTH

Many of our National Guardsmen saw active service on the Mexican border during the past year, and they were, therefore, far advanced in the schooling of warfare when the present great emergency arose. Upon entering camp they were qualified to take an intensive training course which was not possible in the National Army cantonments. Thousands of Guardsmen showed such rapid progress under the tutelage of their own officers and of experts loaned by our Allies that they have already entered the "post-graduate schools of war" in the training camps behind the French front lines.



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ADVANCED BAYONET DRILL BY STUDENT OFFICERS

Boxing is the sport most encouraged at the camps and cantonments because it is similar to the bayonet exercises, and a skillful boxer excels at this kind of drill. The men who are giving this spirited performance have had one month's training.

The capacity of this cantonment is 40,156. It disputes with Macon and Augusta for the honor of being the third city in Georgia. The soldiers quartered there will have very few winter rigors to undergo. While the mercury in the thermometer has occasionally fallen below the zero point, a really cold day is rare, and the average temperature for the year is 61 degrees Fahrenheit. Only 106 days in the year are sunless, while 111 of the sunny ones have no clouds on the horizon.

Atlanta, host to the Camp Gordon forces, is a young city. Accustomed to municipal history which is nearly always rooted in the colonial era, it seems strange for Easterners to think of Atlanta having no place on the map until its first inhabitant settled there in 1839. The village was originally called Terminus, from the fact that it was at the end of the Georgia Railroad, but in 1843 it was incorporated under the name of Marthasville, a designation it forsook in 1845, in favor of Atlanta. At the outbreak of the Civil War the erstwhile railhead settlement had a population of 15,000, and became a strategic point during that conflict. In 1864 it was the objective of General Sherman's offensive from Chattanooga. Capturing the city on September 2, he began his march to the sea on November 15th.

Camp Gordon was named for General John B. Gordon, one of the ablest officers of the Confederacy. His grandfather was one of seven brothers, all of whom fought in the Revolutionary War. When the Civil War began he was engaged in mining work in Alabama and was without military training. Organizing a company which called itself the "Raccoon Roughs," he became its captain, and rose through successive grades to a major generalship. He was made a brigadier for his distinguished conduct at Malvern Hill, Seven Pines, and Sharpsburg. He held the "farthest east" record of the Confederate forces, having, before the battle of Gettysburg, penetrated as far as Wrightsville, on the Susquehanna. After the war he was elected Governor of Georgia and also served in the U. S. Senate.

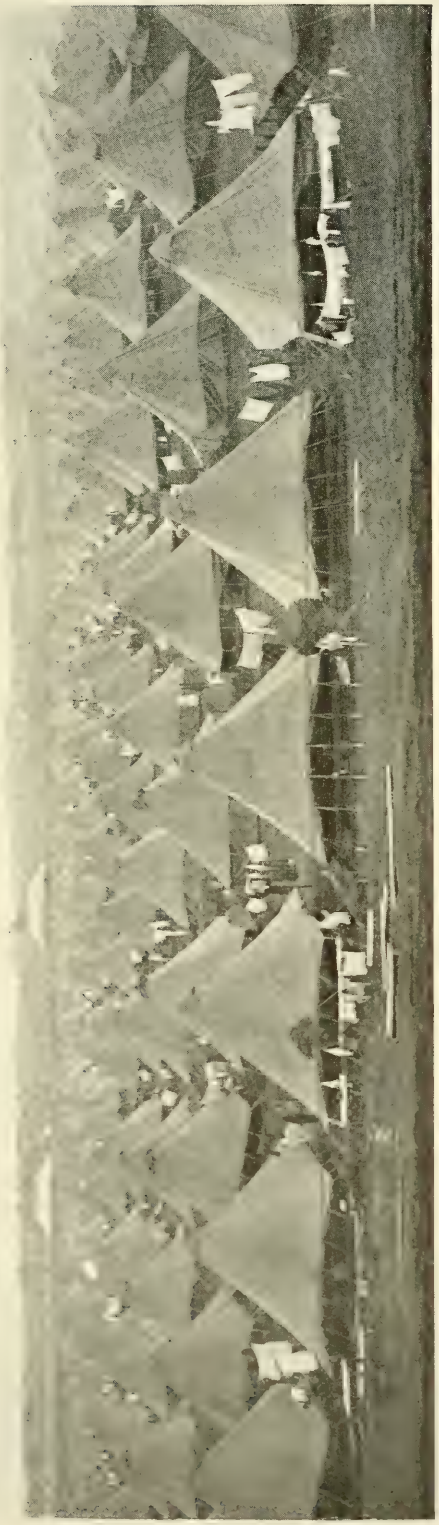
CAMP SHERMAN

Camp Sherman, built to shelter the National Army forces mustered into the Federal service from Ohio and a small section of western Pennsylvania, is located at Chillicothe, Ohio. Chillicothe is one of the big cross-roads of the State of Ohio. The Norfolk & Western and the Baltimore & Ohio main lines from Columbus to Norfolk and from St. Louis to Philadelphia, respectively, cross here. The Ohio & Erie Canal, which connects the waters of the Great Lakes with those of the Ohio River, passes by the city.

The camp is situated about three miles northwest of Chillicothe, in one of the finest farming belts of the Buckeye State. The 1,900-acre site is practically level, there being not more than 25 feet difference between the elevation of any two points in the whole area. The site parallels the Scioto River at a distance of about half a mile from its bank. The camp headquarters is located in an old southern Ohio mansion which stands in the big parade ground.

In the average year Chillicothe has 130 days in which the clouds hide the sun all day. There are about 100 days of sunshine and 135 partly cloudy. The average temperature is higher than that of most northern cantonments, being 53 degrees.

Camp Sherman was named in honor of General William Tecumseh Sherman, the hero of Chattanooga. His father died when he was nine years of age, and he was reared in the family of Thomas Ewing, whose daughter he married in later years. In 1856 he predicted the Civil War, saying that "unless people both North and South learn more moderation, we will see sights in the way of civil war." Resigning the superintendency of a military school in Louisiana when that State seceded, he returned to his home in the North and volunteered for service. By successive steps he rose from colonel to be a major general of volunteers. Later he was made a brigadier general in the Regular Army and given command of the Western forces by General Grant when the latter became Commander-in-chief. After the fall of Chattanooga he



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THE NEW YORK NATIONAL GUARD IN CAMP

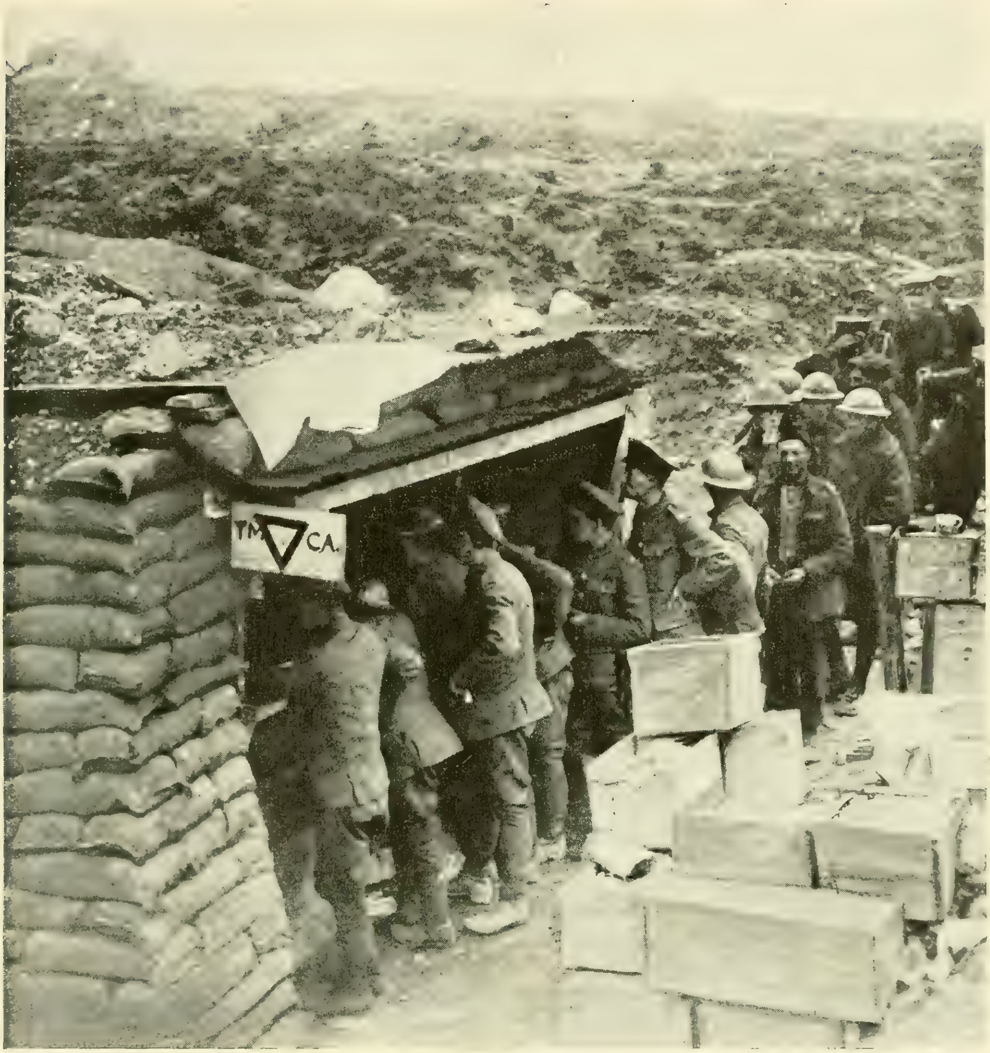
The quantities of canvas required for the National Guard camps and the Regular Army were as great a problem as the lumber and labor needs at the cantonments. Indeed, it was nearly decided that sufficient tenting material could not be secured and the National Guard camps would have to have buildings like those for the National Army. But, like the other problems, this one was met and solved and the canvas was produced. The "Rainbow Division" is tenting tonight—Over There.

invaded Georgia. Capturing Atlanta, he issued orders for all of its people to leave. The civil officials protested, which led to the oft-repeated saying ascribed to him, "War is hell." What he actually said was "You cannot qualify war in harsher terms than I will; war is cruelty and you cannot refine it."

CAMP TAYLOR

Camp Taylor, located beyond the city limits of Louisville, Ky., is the training camp for the divisions of the National Army which will come out of Kentucky, Indiana, and southern Illinois. No part of the camp is more than seven miles from the heart of the city, all of it except the maneuver grounds, indeed, lying close to the five-mile line from the center of the town. Its sewerage and water systems connect with those of Louisville and it gets its electric light from there. None of the camps has been laid out with more attention to ideals of city planning than Camp Taylor. There are some beautiful groves of trees and commanding knolls attract the eye. The average temperature at Camp Taylor is 57, with 107 as the highest summer heat on record and 21 below zero as the lowest winter cold. It has an average of 107 days of full sunshine and 118 of unbroken cloudiness a year.

Louisville illustrates the effect of geography on history. It is situated at the falls of the Ohio River. In the year 1778 General George Rogers Clark was



Photograph from Young Men's Christian Association

A YOUNG MEN'S CHRISTIAN ASSOCIATION HUT AT THE FRONT

According to the account of an English officer who has been there, when the young soldier, weary and muddy, first comes out of the trenches "he wants to go home to mother. Of course, he can't; so he goes to the Y. M. C. A. hut." This hut is a sand-bag dugout covered with turf, ten feet long and seven feet wide, with a roof high enough for men to stand upright in the middle. Planks laid on boxes form a counter, where cocoa and biscuits are served; there are writing and reading material and a talking machine. Shrapnel and shells sweep over this refuge constantly.

floating down the Ohio, his boats loaded with soldiers for the conquest of the Illinois country. When he came to the falls he concluded that what was afterward known as Corn Island, but which has since been washed away, would be an ideal cantonment site for the training of his raw recruits, since it was safe from Indian raids and desertion would be difficult. He brought some twenty emigrant families with him and built log cabins for them. After training his men he resumed his voyage down the river, leaving the emigrant families behind. They finally moved off the island and settled in a bend of the river on the Kentucky side and there founded the city of Louisville.

Fifty miles away is Hodgenville, where Abraham Lincoln was born. Within three

Photograph by Paul Thompson

A GLEE CLUB AND STRING BAND AT PLATTSBURG

Music plays a large part in building up that subtle essential to an army's success—morale. Song leaders are sent to the camps and cantonments by the War Department to teach the soldiers to sing, and the policy of camp commanders is to encourage singing at work, at play, on the march, and any time.

hours' ride is Mammoth Cave, the world's greatest caverns, which served America in her first war for liberty as the mines of Minnesota are serving her now, furnishing the saltpeter then unobtainable elsewhere, even as Minnesota furnishes the iron ore today.

Camp Taylor was named for Zachary Taylor, twelfth President of the United States and hero of Buena Vista, where he won a notable victory over Santa Anna, the Mexican leader, in 1847.

CAMP CUSTER

Situated in the environs of Battle Creek, famous for its breakfast foods and rest cures, Camp Custer, which is given over to the National Army forces from Michigan and eastern Wisconsin, is the smallest of the 16 cantonments. The Kalamazoo River runs past the camp site, and the barracks are ranged along the crest of a hill, shaped like a boomerang. At the end of the parade ground there is a beautiful flower garden, planted by the ladies of Battle Creek.

Although the camp is the smallest of the cantonments, it is a sizable place. Eleven hundred buildings, a half-million-dollar hospital, 20 miles of sewerage, 16 miles of water pipe, 8 artesian wells, with a combined flow of 4,000 gallons a minute, are not mean figures. The hospital, with its 59 buildings, is laid out around Eagle Lake, a beautiful sheet of water.

Some fifty miles from the shores of Lake Michigan, a hundred miles from Lake Erie, and about forty from the Indiana State line, Battle Creek has an ideal location as a mobilization center.

Battle Creek was not on the map before 1850, being incorporated as a village in that year; but as a junction point of the main lines of the Grand Trunk and the Michigan Central railroads, it soon began to flourish.

Camp Custer was named for General George A. Custer, who was killed in a battle with Sitting Bull and Crazy Horse, June 25, 1876.

CAMP GRANT

Located about five miles south of Rockford, Ill., to the east of Rock River, and connected with that city by a magnificent concrete highway, Camp Grant, which is the training quarters for the men who will constitute the divisions to be drawn from northern Illinois and all except the Lake Michigan shore counties of Wisconsin, is one of the most northerly of the 16 cantonments. It has more sunny days than any other of the 16 cantonments, with 274 cloudless or only partially cloudy ones annually.

Camp Grant is bounded on the west by the Rock River, and fronts the north bank of the beautiful little Kishwaukee River for a distance of half a mile. Rockford, with a population of 60,000, was so enthusiastic about having a cantonment near it that a fund of $100,000 was raised to improve conditions there. The Chamber of Commerce built some 400 residences on a tract outside of the cantonment to be used as homes for the officers. No city has shown a heartier hospitality to the new National Army forces than Rockford.

This cantonment was laid out with an eye to preserving the natural beauty of the site. A magnificent fringe of trees stretches along the banks of Rock River and has been preserved for park purposes. Some rare old farm houses have been utilized as officers' quarters.

A circle drawn around the camp at a distance of 80 miles will pass through Chicago and Milwaukee, cross the Mississippi at Dubuque and embrace an area in Iowa within the Big Bend of that river between Dubuque and Davenport. This territory embraces magnificent farming land and the great dairy region of which Elgin is the center and from which annually come hundreds of millions of pounds of golden butter.

Of course, everybody knows for whom this camp was named—Gen. Ulysses S. Grant, chief military hero of the Northern armies in the Civil War and afterward President of the United States.

CAMP PIKE

Camp Pike, situated eight miles northwest of Little Rock, Ark., houses the National Army forces drawn from Arkansas, Louisiana, Mississippi, and western Alabama. Here an up-to-date military city of 42,000 capacity had virtually

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MATTRESSES FOR THE STUDENT OFFICERS' BUNKS

This is a Plattsburg scene and the one-story building in the background is of the design originally proposed for the cantonments. It was wisely decided to adopt the more economical two-story barracks with larger windows. For the double-decker bunks used in the officers' training camps single cots have been substituted.

to be built in the midst of a wilderness. Ground was broken for the camp on July 9th. The site was almost entirely covered with second-growth timber, the nearest railroad was five miles away, and supplies had to be brought by truck from Little Rock over hilly highways. A vast deal of rock was encountered in ditching for water and sewer pipes—nearly 75 per cent of the total excavations, in fact.

Labor was scarce, as Camp Funston, in Kansas, had an earlier start and had secured most of the available supply. But the contractors ranged far and wide, even into the Mexican States of Chihuahua and San Luis Potosi, with the result that all handicaps were overcome. This camp has little level ground, resembling Camp Ayer and Camp Gordon in that respect, and many heavy grades in the road system result. The 75 hospital buildings cover 47 acres of ground.

Little Rock, which plays the rôle of host to Camp Pike, is the largest city in Arkansas. It was settled in 1814, becoming the seat of the territorial government in 1820, although at that time it had a population of only 20 people.

Situated on both banks of the Arkansas River, the city takes its name from the rocky promontory which rises to a height of some 50 feet above the river. It was called Little Rock in contradistinction to the bold precipice, some 3 miles above and about 500 feet high, which was known as Big Rock. To the west of the city and of Camp Pike the foothills of the Ozark Mountains rise, but to the east are fertile cotton fields and corn lands. The Arkansas River is navigable to boats of considerable draft as far as Little Rock, while steamboats of shallow draft go as far as Fort Smith, 165 miles to the west.

At the outbreak of the Civil War the State was hopelessly divided in sentiment. The upland people, living west of Little Rock, were Unionists and the cotton-territory folk, living east, were Secessionists. Camp Pike stands near the line of cleavage.

Camp Pike is named in honor of General Zebulon M. Pike, an American soldier and geographer. Born in Lamberton, N. J., in 1779, he spent his boyhood in Pennsylvania, and in 1805 started from St. Louis on an expedition to locate the source of the Mississippi. He was successful. Later he followed the Missouri and Osage rivers into Kansas, then went southward to the Arkansas, proceeding through Kansas and Colorado to the present site of Pueblo, and viewed Pikes Peak (since named in his honor). While searching for the Red River he lost his way and wandered into Mexican territory across the upper Rio Grande. He was arrested, taken to Chihuahua, and, after some delay, escorted back to the border. In the War of 1812 he led American forces into Canada and was killed at York by falling rock when the retreating force blew up a powder magazine. He died while his nomination for brigadier general was pending.

CAMP DODGE

Troops from four States are being trained at Camp Dodge, 11 miles north of Des Moines, Iowa. These troops include all of the National Army forces from Iowa, North Dakota, and Minnesota, and those from a middle belt of Illinois.

Military scenes are not new to the neighborhood of Camp Dodge, for the site embraces the Fort Dodge State rifle range and maneuver grounds of the Iowa National Guard in peace times. The camp lies on both sides of the Des Moines River and occupies an area of about 3,500 acres. Many other cities sought the cantonment, but Des Moines showed that it enjoyed 3,000 hours more of sunshine a year than any rival site. It has 259 days of all or part sunshine. Its average annual temperature is 48 degrees.

Des Moines is one of the great railroad centers of the Middle West. It is the capital of the State, and its name signifies "Of the Monks." Founded 71 years ago, it is now a city of 100,000 progressive citizens.

Camp Dodge was named for General Grenville M. Dodge, a civil engineer who helped to make the Platte Survey, one of the first railroad surveys toward the Pacific. He was an officer in the Civil War, rising to the rank of major general of volunteers. In 1864 he commanded the

Sixteenth Corps of General Sherman's army in the campaign which resulted in the fall of Atlanta. Later he was given command of the Department of the Missouri. He became chief engineer of the Union Pacific in 1867, and of the Texas and Pacific in 1871. He served a term in Congress, and in 1898 was appointed by President McKinley as chairman of a commission to investigate the charges of departmental mismanagement in the Spanish-American War.

CAMP FUNSTON

It devolves on Camp Funston, located at Fort Riley, Kansas, which stands at the confluence of the Republican and the Kansas rivers, to accommodate the National Army forces from seven States—Missouri, South Dakota, Nebraska, Kansas, Colorado, New Mexico, and Arizona. The men who will train at this camp may well feel that they are closer to the heart of the United States than any of the other military forces of the nation, for at Fort Riley stands the Ogden Monument, proclaiming the exact geographic center of the United States.

The military reservation on which Fort Riley stands, and on which Camp Funston was built, embraces nearly 20,000 acres. A military road connects Fort Riley with Fort Leavenworth, on the Missouri River, about 25 miles above Kansas City. This road was completed in 1854. Later it was extended westward to Bridgers Pass, between Nebraska and Utah. Fort Riley is the seat of the United States Cavalry and Field Artillery schools, which accounts for the big area embraced in the reservation.

Camp Funston can accommodate 41,000 people—a city as populous as the State capital. To the south of the camp runs the Kansas River and to the north are grass-covered hills. It would be difficult to imagine a more striking location for a camp. The fertile valley of Kansas' middle river sweeps eastward, and one gets the feeling of the boundless reaches of America as he surveys the scene from the green hills to the north. The county adjoining Riley on the east is Pottawattomie, home of John Brown. Sixty miles to the southeast is Emporia, where "What's the Matter with Kansas" had its birth.

Camp Funston is named for General Frederick Funston, who died only a few months ago at San Antonio, Texas. Born at New Carlisle, Clark County, Ohio, in 1865, the son of an artillery officer in the Civil War, his boyhood was spent on a Kansas farm. He was educated at the State university, became a reporter and then a special agent of the United States Department of Agriculture, where his work took him across Death Valley, into the heart of Alaska, down the Yukon alone in a canoe and up the 141st meridian to the Arctic Ocean. Later he traveled in Mexico, then went to Cuba, where he joined the cause of Cuba as a captain of artillery. While campaigning with Gomez and Garcia he was wounded, and, seeking to return to the United States, was captured by the Spaniards, who condemned him to be shot. Upon being released he returned to the United States. At the outbreak of the Spanish-American War he raised the 20th Kansas Volunteer Infantry Regiment. He was sent to the Philippines, where, on a small raft, he crossed a river under heavy fire and established a rope ferry that enabled the Federal forces to win an important victory at Calumpit. For this act of bravery he was awarded the Congressional Medal of Honor, and later organized the expedition that captured Aguinaldo. His more recent services, especially as commander of the American forces on the Rio Grande and as the head of the expedition to Vera Cruz, are well known.

CAMP TRAVIS

San Antonio has the unusual honor of having four military camps—Camp Travis, housing the National Army contingent from Oklahoma and Texas; Camp Wilson, housing contingents of Regular Army forces on the Mexican border; Fort Sam Houston, a Regular Army post; and Camp Kelly, an aviation camp.

The city's popularity with the army is deserved, as it has seasonable weather for military training every month in the year. Its average temperature is 68° and its lowest is 4° above zero. Furthermore, it

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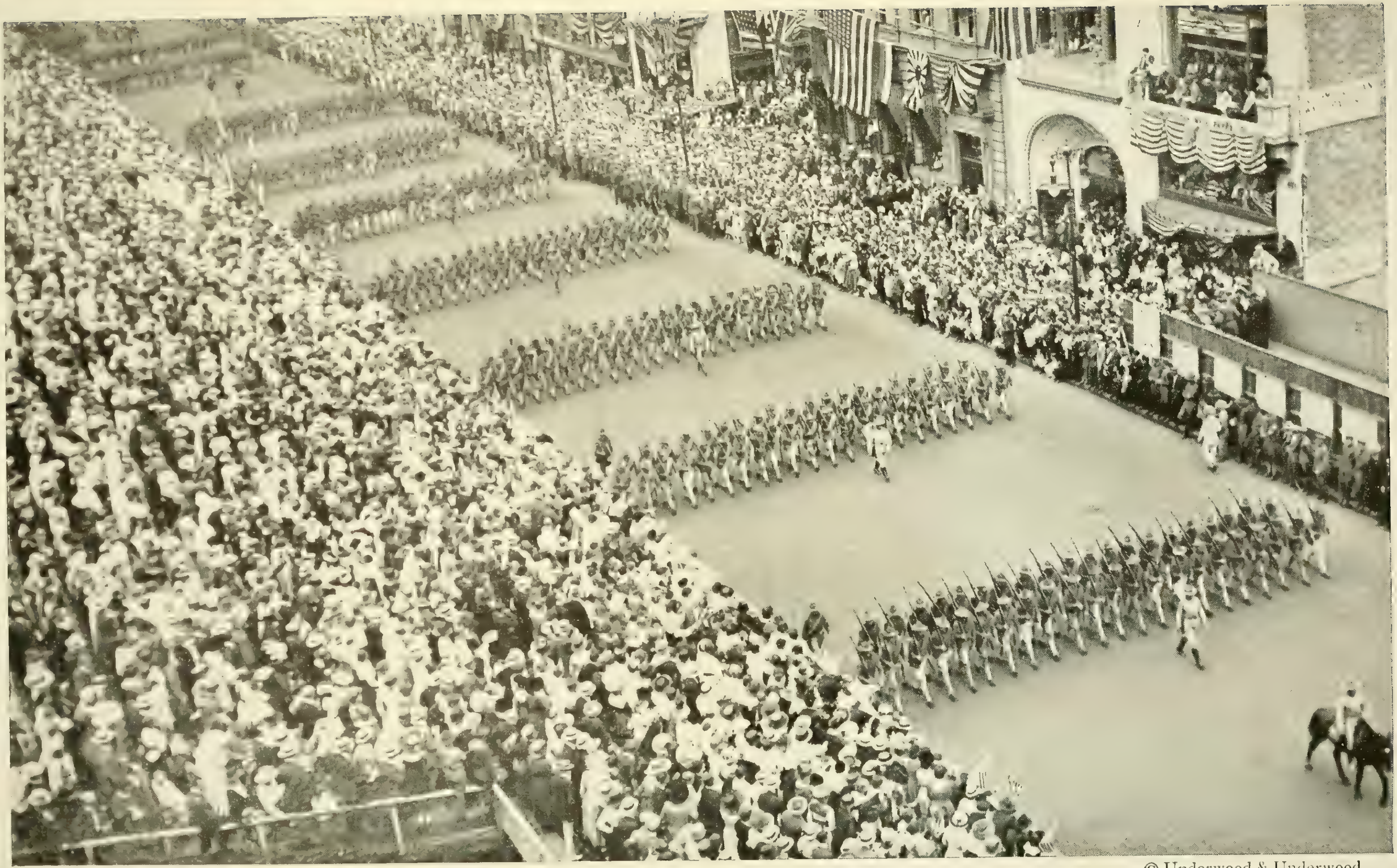
THE SILHOUETTED SENTRY AS HIS EVENING VIGIL BEGINS

Back of him, in the gathering dusk, is seen a tiny segment of a vast tented city. As silently as the shades of evening fall, the spirit of resolution rises in every loyal heart that America shall never quit the fight until she knows that the fruitage of her warfare is lasting peace.

occupies a strategical position with reference to 2,000 miles of turbulent and somewhat unfriendly border. Camp Travis lies immediately to the east of Camp Wilson, along the Austin road. It adjoins Fort Sam Houston, which is second in importance among the military reservations in the United States.

The men at Camp Travis are training on historic soil. The city is the largest in the Lone Star State, situated about 140 miles inland from the Gulf of Mexico, at Rockport, and the same distance from the border city of Laredo, on the Rio Grande. The railroads centering there lead south to Laredo, southeast to the Gulf, west to Eagle Pass and El Paso, and northeast to the principal cities of the Mississippi Valley.

The city is a quaint combination of old Spanish and modern American architecture. It is beautifully laid out on a plateau over 600 feet above sea-level, a few miles below the wonderful chain of crystal springs from which the San Antonio River flows. Seventeen iron bridges span the river, which meanders for 13 miles through the city. The public plazas, with their subtropical trees, their chile concarne and hot tamale stands, and



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A "SEND-OFF" FOR NEW YORK NATIONAL GUARDSMEN

It is as difficult to discover the characteristic gray decorum of Fifth Avenue in this thrilling spectacle as it is to find the man who used to wish, in the unenlightened days of 1914, that "people wouldn't talk so much about the war!"

their debouching streets with liquid Castilian names, make one think of Monterey and Chihuahua, which were, before the passing of the Diaz régime, about as much American as San Antonio is Spanish.

The city was born of the fierce rivalry between France and Spain for the possession of the rolling prairies of Texas. Both sent expeditions of exploration to this region. The Spaniards established missions and held the territory.

When Texas revolted against Santa Anna, in 1835, the city was taken by the Texans, whose garrison included William B. Travis and "Davy" Crockett. The city fell and Travis and his command, numbering 179, fortified themselves in the Alamo, with their rifles and 14 cannons. The siege lasted 10 days, with 6,000 troops against the devoted 179. When the place was finally captured every defender left alive was butchered, but they had accounted for a casualty list of 1,600 among the Mexicans. In 1842 the Spaniards took the city a second time and marched off its most prominent citizens to dungeons in Perote Castle, State of Vera Cruz. A few days later it was retaken by Hays and Caldwell, never to fall into Mexican hands again.

Col. William B. Travis, for whom Camp Travis is named, was born in Edgefield County, South Carolina, in 1811. He studied law, moved to Alabama, then to Texas. He became a colonel in the Texas army in 1832, was captured by the Mexicans, and released. How gallantly Colonel Travis, at the age of 25 years, conducted his defense of the Alamo is a story which has fired the imagination of American school boys for three-quarters of a century.

CAMP LEWIS

The biggest cantonment, both in capacity and in the number of States whose troops it will house, is Camp Lewis, 17½ miles south of Tacoma, Washington, at Dupont, on the Northern Pacific Railway, and on the splendid Pacific highway. It has quarters for 47,650 officers and men and stables for 15,000 horses. It will be the training school of all the National Army forces drawn from the eight States of Montana, Wyoming, Idaho, Washington, Oregon, California, Nevada, and Utah.

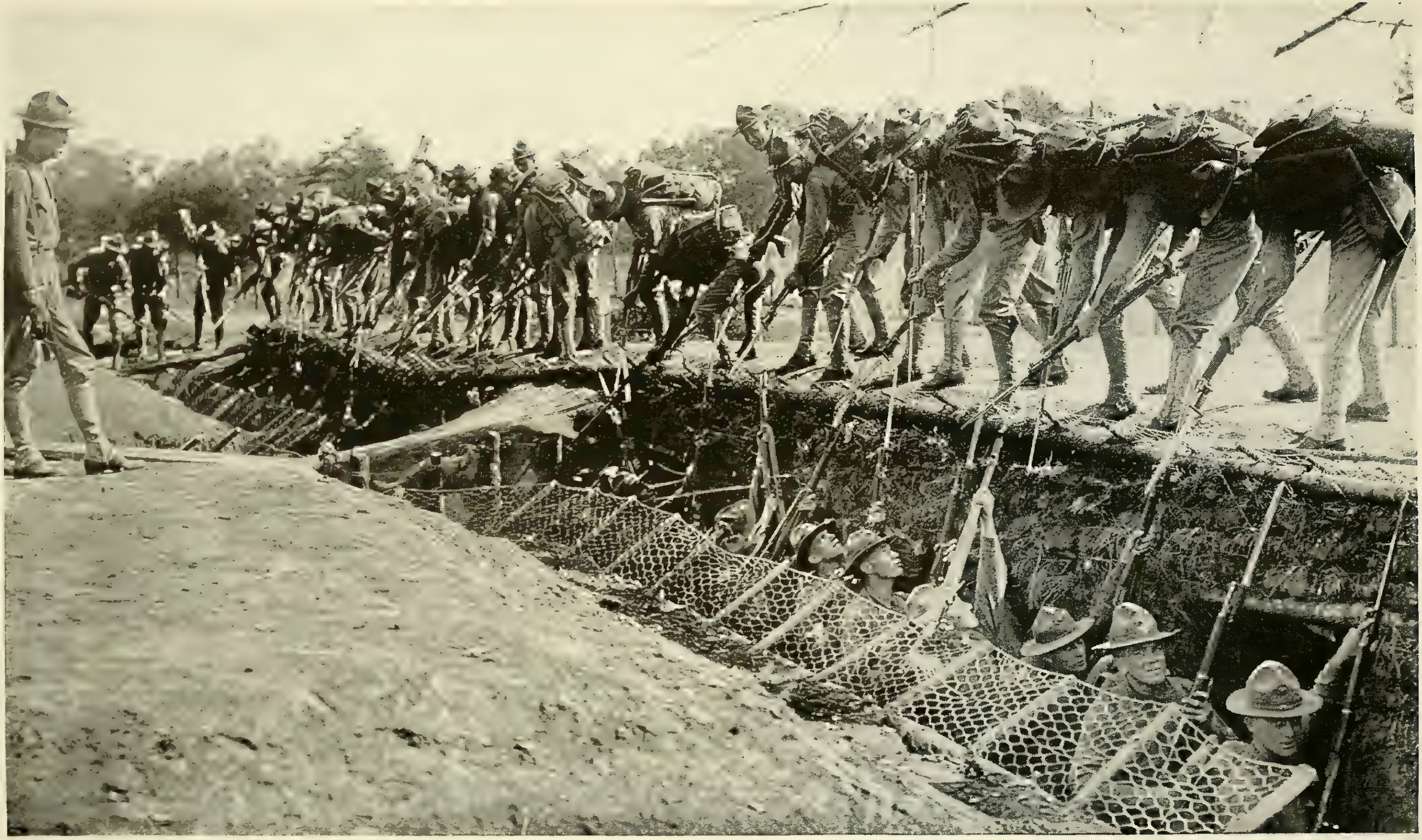
This site has long been regarded as the finest military training ground west of the Rocky Mountains. It has more entirely clouded days than any other cantonment site, yet it enjoys the most equable climate of the 16. Even Camp Travis, in a latitude 1,200 miles farther south, sometimes shows a winter thermometer only 4 degrees above zero, while the low mercury mark for Camp Lewis is 9 degrees above. The warm winds of the Japan current make the climate of this region so equable that Washington has been given the sobriquet of the Evergreen State.

Within a few miles of the camp site every kind of obstacle that nature opposes to soldiers may be found. The low ranges of the Cascades are hard by; Mt. Rainier is not far away. The soldiers, therefore, may practice on any kind of terrain, from Alpine heights to level savannas.

Camp Lewis is situated in the great Puget Sound Basin, between the coast and Cascade ranges of mountains. In its highest parts this basin scarcely rises more than 500 feet above sea-level, and for more than half of its length is penetrated by the southern arms of Puget Sound—a body of water which forms one of the finest systems of harbors in the world.

Camp Lewis was named for Captain Meriwether Lewis, one of the leaders of the famous Lewis and Clark Expedition, through which the American people gained their first knowledge of the great Northwest. Lewis was born near Charlottesville, Va., in 1774. He enlisted in the forces sent to put down the Whiskey Rebellion in 1794, entered the Regular Army as a lieutenant in 1795, became a captain in 1797, and Thomas Jefferson's private secretary in 1801.

While President, Jefferson sent a confidential message to Congress asking an appropriation for an expedition to plant the American flag on the territory from the Mississippi to Puget Sound. After the appropriation was in hand he appointed Captain Lewis and Captain Clark



Photograph from Public Ledger Photo Service

MARINES AT BAYONET PRACTICE: QUANTICO, VIRGINIA

No sturdier lot of men ever handled bayoneted guns than the men who constitute what, before the advent of aërial warfare, might have been called the flying squadron of Uncle Sam's regular fighting forces for over-sea service. They have been trained to serve as the vanguard of any force that must land on contested ground, and are now ready for landing operations wherever the Allied fleets may open the way.

to lead the expedition. They started up the Missouri in the spring of 1804, following that river to its source, and then struck down the Columbia River to the Pacific. They returned by the same general route, exploring many adjacent valleys on the way. Captain Lewis was afterward appointed Governor of the Territory of Louisiana.

THE NATIONAL GUARD CAMPS

CAMP GREENE

Camp Greene, training ground for the National Guard of the New England States, lies partly within the city limits of Charlotte, N. C. The elevation here is about 720 feet, with an average temperature of 60°. The record high temperature is 102°, and —5° is the mercury's lowest mark.

Charlotte is on the Piedmont and Northern, the Southern, the Norfolk Southern, and the Seaboard Air Line railroads. It is situated in the gold-mining region of the State, has many cotton mills, clothing and other manufactories. Electric power is cheap here. The population is about 35,000.

Charlotte was settled about 1750, and became a county seat just before the war for independence. The Mecklenburg Declaration of Independence, which is held to have anticipated the Jeffersonian document, was signed here in May, 1775.

Camp Greene is named for a New England hero of the American Revolution—Nathanael Greene, of Rhode Island. He was trained as a Quaker, but was one of the first to take part in military preparations of the Colonies.

So extraordinary were the conditions under which the American Army was organized, that Nathanael Greene went under fire for the first time as a major general. His most noteworthy service to the American cause was rendered after he took command of the Army of the South, in October, 1780. There he gained his ends more often by retreats and losing battles than by victory, and won a medal of honor from Congress, a tribute from his Commander-in-Chief to the "peculiar abilities of General Greene," and the acknowledgment by his distinguished opponent, Cornwallis, that he was "as dangerous as Washington—vigilant, enterprising, and full of resource."

CAMP WADSWORTH

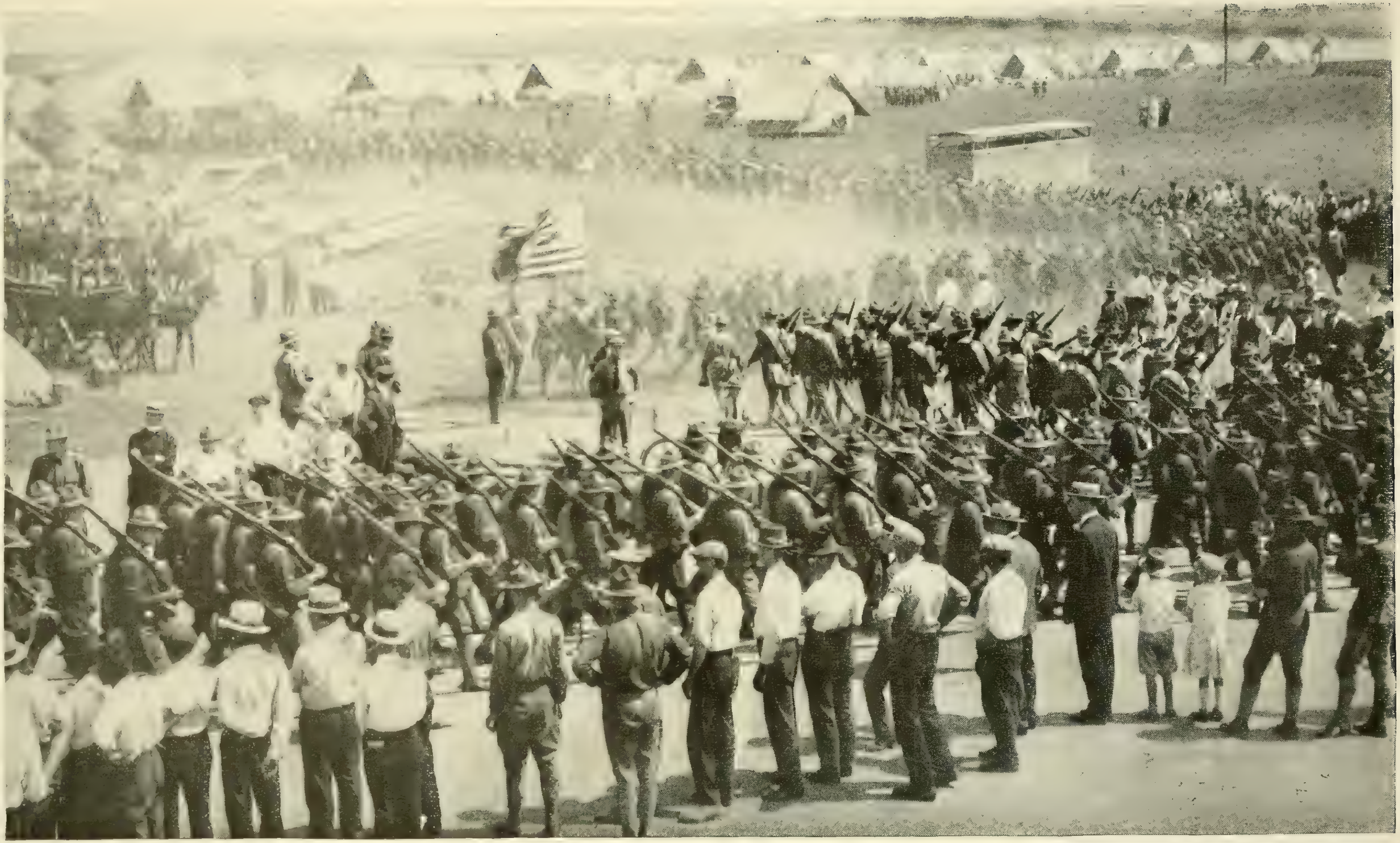
The former National Guardsmen of the Empire State are being trained at Camp Wadsworth, about six miles southwest of Spartanburg, S. C. One extremity of the site lies at Fair Forest, a station on the line of the Southern Railway to Atlanta, and the national highway, which passes through Spartanburg, runs close to the camp. This region has an average annual temperature of 61°, with —4° as the average lowest temperature and 104° as the average highest. The elevation is about 875 feet. This location averages less sunshine than any other camp site, with 164 days clear or partly cloudy each year. It is the center of a cotton manufacturing district. About ten miles away is Cowpens, one of the important battlefields of the Revolution.

In October, 1917, Camp Wadsworth was the largest of the National Guard cities. Its population was more than one and a half times as large as Spartanburg, and Charleston was the only city in the State which housed more inhabitants.

Camp Wadsworth is named for J. S. Wadsworth, a New Yorker and a gallant soldier of the Civil War. From March to December, 1862, he was military governor of Washington, D. C., and was defeated during the same year in the campaign for governor of New York. He played a conspicuous part in the battles of Fredericksburg, Chancellorsville, and Gettysburg. On May 6, 1864, while leading a division in the battle of the Wilderness, he received a mortal wound and died two days later. He was brevetted a major general of volunteers for heroism in this battle.

CAMP SEVIER

The federalized National Guardsmen from Tennessee, North Carolina, and South Carolina are being trained at one of the most delightful camps in the South. The maneuver grounds and the site of Camp Sevier occupy about 2,000 acres where were, until recently, dense woods of oak and pine and fields of corn and



Photograph by Central News Photo Service

THE ADVANCE GUARD OF THE RAINBOW DIVISION GOING INTO CAMP

The former National Guardsmen who are shown here arriving at a tent city on Long Island for a period of training, composed the first unit of the "Rainbow Division." Hearts at home were gladdened recently by the news of their safe arrival in France.

cotton, about six miles northeast of Greenville, S. C. The country is rolling, and the camp boasts pure air, pure water, and no mosquitoes. The main line of the Southern Railway to Washington divides the camp proper from the maneuver grounds. Paris station is located just at the boundary of the encampment. The maneuver field is crossed lengthwise by a stream of considerable size.

This region has sunshine on 254 days of the average year. Its annual mean temperature is 58°, and —5° is the record low temperature. The cool mountain air tempers the summer heat, which seldom goes above 97°.

Greenville, the nearest town and the county seat, was settled in the year of the Declaration of Independence and incorporated in 1831. It is of considerable industrial importance and is noted as an educational center, with four colleges. Four railroads run into Greenville, connecting it directly with Knoxville, Columbia, Charleston, Atlanta, and Washington.

Col. John Sevier, for whom this camp is named, became famous as an Indian fighter, and was made a brigadier general under Marion in 1781. He proclaimed himself governor of the "State of Franklin," in the territory which is now Tennessee, when North Carolina wished to cede those western lands to Congress. The "State of Franklin" collapsed, but Sevier's conduct did not prevent his becoming later a member of the North Carolina Senate, and still later (1790), representing that State in Congress. He enjoyed the unusual distinction of having been sent to Congress at different times by two States, for he represented Tennessee from 1811 to 1815, having previously served in that State's Senate and for three terms as Governor.

CAMP HANCOCK

Camp Hancock, the National Guard home for Pennsylvania troops, adjoins the southwest city limits of Augusta, Ga., and comprises 2,000 acres, on which are 800 permanent buildings. The Georgia Railroad to Atlanta runs along the southern border of the site and connects with the Southern Railway's union station in the city. A lake formed by the south fork of Rae Creek lies at the northwestern extremity of the camp.

Augusta's climate has all the charms of the Sunny South. Two hundred and sixty-seven days of the average year are clear or only partly cloudy; the lowest winter temperature is three degrees above zero, the maximum in summer is 105°, and the mean temperature is 64°. The city is one of the most popular inland winter resorts in the United States.

Augusta was founded in 1735 by the English philanthropist and soldier, James Edward Oglethorpe, to whom the colony of Georgia was granted by George II. For nine years Oglethorpe labored to establish in this wilderness a colony which would remedy the evil of debtors' prisons in England. He was the guiding spirit in the administration of the colony and its defender against the hostile tide of Spanish colonists and Indians on the south. Financial obligations incurred in promoting the colony compelled his return to England, but he retained his interest in American affairs and was one of the earliest to assure the first ambassador of the independent United States to England of his regard for the new nation and his satisfaction that the difficulties between it and Great Britain were at an end.

The city stands at the head of navigation on the Savannah River, making possible an all-water connection with eastern markets. Nine railroads give it further commercial advantages. It has many industries, among which cotton manufacture predominates, giving the city the name "the Lowell of the South."

Winfield Scott Hancock, for whom this camp is named, ranks high on the roll of American soldiers. A West Point graduate, he earned a first lieutenancy in the Mexican War. Commissioned a brigadier general of volunteers at the beginning of the Civil War, he rose to the rank of major general in the Regular Army during that conflict. At Williamsburg his conduct was mentioned by General McClellan as "superb." Hancock's Division is credited with having saved the Federal forces from a rout at Chancellorsville. He was wounded at Gettysburg, where he won distinction for his judgment and tactical skill, qualities which were sternly required for the part he later played in the Wilderness campaign. He saw more service during the Reconstruction days, and was the unsuccessful candidate for the Presidency against Garfield. A Pennsylvanian by birth, he is appropriately honored in this camp for Pennsylvania's soldiers.

CAMP WHEELER

Camp Wheeler lies seven miles southeast of Macon, Ga. Here the National Guard troops of Alabama, Florida, and Georgia are in training. The Macon, Dublin and Savannah Railroad crosses the camp and connects with the Southern Terminal in Macon.

Macon is the center of an extensive cotton trade and has steamboat connection with Brunswick and Savannah.

The climate is generally mild and pleasant, with an average annual temperature of 63°. The record high temperature is 104°, while winter rigors may hardly be said to exist, the lowest mark of the mercury being 10°. The elevation is between 300 and 400 feet. In the average year about 246 days are clear or only partly cloudy.

General Joseph E. Wheeler, for whom this camp is named, was born at Augusta, Ga. A West Point graduate of 1859, he became one of the ablest cavalry leaders of the Confederate army, and rose to the rank of lieutenant general. After the war he served for 19 years in Congress, then, returning to the army, commanded a U. S. cavalry division in the Spanish-American War. After two years more of service, commanding a brigade in the Philippines, he was commissioned a brigadier general and retired in 1900. He died in 1906 and was buried at Arlington.

CAMP MC CLELLAN

Five miles from Anniston, Ala., is located Camp McClellan, the encampment for the National Guardsmen of New Jersey, Virginia, Delaware, Maryland, and the District of Columbia. A great expanse of maneuver grounds extends north and east from the encampment.

The advantages of this location for military operations were recognized several years ago, and the National Guard of eight Southern States held their field maneuvers here in 1912. Camp and town are surrounded by the foothills of the Blue Ridge.

The record high temperature is 103° and the annual average 61°. The lowest record of the mercury is 9° above zero. The sun shines on 208 days of the average year.

Anniston was founded in 1873 by the Woodstock Iron Company, and for ten years existed merely as a part of that company's business.

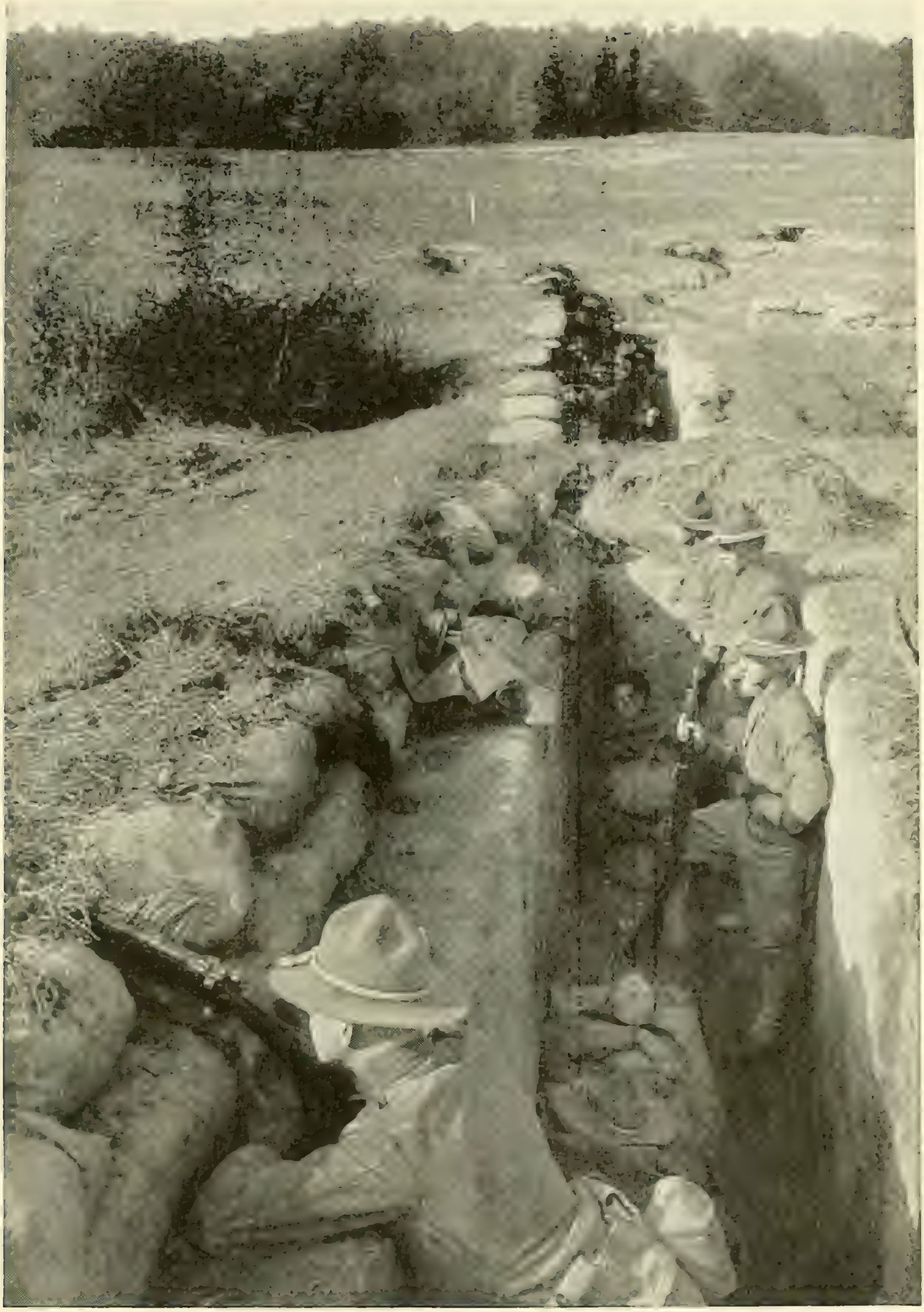
This camp bears a name that is conspicuous in the military annals of the United States. Major General George B. McClellan was a West Point graduate of 1846. In the Mexican War he was brevetted first lieutenant and later captain for gallantry. Between the Mexican and the Civil War he was one of three officers commissioned as military observers in the Crimea, and then leaving the army he became first an official of the Illinois Central and afterward president of the St. Louis and Cincinnati Railroad. At the outbreak of the Civil War he was appointed major general of volunteers and made a successful campaign in West Virginia. After the first battle of Bull Run he was placed in command of the Army of the Potomac, having been commissioned a major general in the Regular Army, and in November, 1861, he became commander of the Army of the United States. In the presidential election of 1864, McClellan was Lincoln's opponent, and was defeated by a popular majority of about 400,000. Thereafter he was occupied chiefly with engineering enterprises and served one term as Governor of New Jersey, declining renomination.

CAMP SHERIDAN

Camp Sheridan, occupied by troops of the National Guard of Ohio and West Virginia, lies north of the city limits of Montgomery, Ala.

The sun shines in Montgomery about 260 days a year. The average annual temperature is 65°, with 107° as the greatest summer heat and 5° above zero as the record in low temperature.

The hostess city of this encampment is



Photograph by Earle Harrison

TRENCH WARFARE AT A TRAINING CAMP

The men spend a day and a night in these training trenches, eating and sleeping there. The object is to reproduce faithfully the conditions on the French front, and although the realism is not carried to the point of supplying shot and shell, rats and mud, no one can complain that this preparation for the actual battle-line is too theoretical.

also the State capital. It is situated at the head of navigation of the Alabama, and built for the most part on the high bluff above the river. With its many fine old-fashioned residences and beautiful gardens, Montgomery retains some of the leisurely charm of plantation days, but in other respects it is typical of the new South. It is a great inland cotton market, and has a fortunate location with regard to timber and deposits of iron and coal. Its manufacturing interests are important.

No State was more zealous in the Secession movement than Alabama, and it was from Montgomery that the telegraphic order to fire on Fort Sumter was despatched. The Confederate Government was inaugurated by Jefferson Davis in the State House here, on February 18, 1861. Today this "Cradle of the Confederacy" is welcoming the sons of two Northern States who are to be defenders of the honor and ideals of North and South alike.

Camp Sheridan is named for General Philip Henry Sheridan, whose brilliant part in the Civil War is familiar to every American.

CAMP SHELBY

Camp Shelby, where the National Guardsmen of Indiana and Kentucky are encamped, is located about ten and a half miles southeast of Hattiesburg, Miss., with its 15,000 inhabitants. The camp site was heavily wooded. About 180,000 stumps had to be blown out in the course of construction. The camp is oblong in shape and comprises something more than three square miles, with a target range one mile square adjoining it on the east. The Leaf River flows southeast from Hattiesburg and the tributary Jacobs Creek enters the camp grounds.

The average temperature for the year, in this region, is 67°, with 103° as the greatest summer heat. One degree below zero stands as the extreme record in low temperatures. Although only 226 days a year are clear or only partly cloudy, a smaller total than in most of the south-eastern camps, 177 days are cloudless.

This camp is named for a Revolutionary soldier, Colonel Isaac Shelby. A native of Maryland, at the age of 24 he became a lieutenant under his father's command. By 1777 he had risen to the rank of colonel; he played a distinguished part in the battle of King's Mountain and served in the Southern campaign under Greene. He was a member of the Virginia House of Delegates in 1778 and later a member of the North Carolina egislature. He was a member of the Constitutional Convention, and in 1792 Governor of Kentucky, after playing an important part in bringing that State into an existence separate from Virginia. As governor he served two terms, and then, in a crisis of the War of 1812, returned to military service and went to the relief of General Harrison in Canada, with 4,000 Kentucky volunteers. He received a medal from Congress for his services in the battle of the Thames. His name and fame are commemorated in the South and West, where there are nine Shelby counties.

CAMP BEAUREGARD

Louisiana, Mississippi, and Arkansas National Guard forces are spending their preparation period at Camp Beauregard, adjacent to Alexandria, La. Camp Beauregard is located in the heart of the long-leaf pine district, with forests stretching in every direction for some 75 miles. In the immediate vicinity of the city, to the north of the Red River, are cotton, sugar, and alfalfa fields, while south of the river there are rich farming districts.

Alexandria has a war history of interest. In the spring of 1863 Admiral Porter, with a fleet of river boats, coöperated with General Banks in driving the Confederates westward. In 1864 the town was again occupied by Union troops, as a concentration camp for the land and water forces to be sent against General Kirby Smith at Shreveport. The gunboats passed up the river toward Shreveport while high water prevailed, but were caught above the falls at Alexandria and would have been lost but for the timely work of Lieut. Col. Joseph Bailey, who constructed a dam which saved them.

Camp Beauregard was named for General P. G. T. Beauregard, of the Confederate Army. Born in New Orleans in in 1818, he was graduated from West Point in 1838. In the fall of 1860 he was appointed superintendent of the United States Military Academy at West Point, a position he resigned to enter the Confederate Army. He began the Civil War by his bombardment of Fort Sumter. He was second in rank at the first battle of Bull Run, and at Shiloh succeeded Albert Sidney Johnston when the latter fell. He was with Lee at Petersburg, and later went West, surrendering with Joseph E. Johnston. After the war he was offered first the command of the Roumanian armies and later of the Egyptian forces under the Khedive of Egypt, but declined both offers. He died in 1893.

CAMP LOGAN

Five miles west of Houston, Tex., is the Illinois Guardsmen's Camp Logan.

This location has the highest average annual temperature of any National Guard encampment, 69°, the mercury's highest record being 102° and the lowest 15° above zero. The sun shines here about 256 days a year, of which 120 days are partly cloudy.

Houston is a city of 94,000 inhabitants. It is a railroad center of importance and has direct water communication with the Gulf at Galveston, about 50 miles to the southeast, by way of the Houston Ship Channel. The city is a prosperous distributing market for cotton and lumber, and exports cotton-seed oil, rice, and sugar in large quantities.

The city is named for Sam Houston, soldier and leader in the early history of Texas, second president of that Republic, and later governor and senator from the State. It was founded in the year of Texas' independence, 1836, and was the capital of the Republic in 1837-39 and 1842

Camp Logan commemorates an Illinois military leader. John Alexander Logan was a member of Congress at the outbreak of the Civil War and resigned his seat to enter the army as colonel of the 31st Illinois Volunteers. He distinguished himself in the Vicksburg campaign as a division commander, and was the military governor of the city after its capture. After the war he was again elected to Congress, serving one term in the House and two in the Senate. He was the Republican vice-presidential candidate on the ticket with James G. Blaine, and was reëlected to the Senate by Illinois after the Democratic presidential victory.

CAMP MAC ARTHUR

Camp MacArthur, northeast of the city limits of Waco, Tex., is the training ground for the guardsmen of Michigan and Wisconsin. Waco is a city of about 33,000 inhabitants and is situated on both sides of the Brazos River. Artesian wells supply waters of widely known medicinal properties.

Texas climate offers a rather wide range of temperature, the highest record at Waco being 109° and the lowest 5°. The annual average is 67°.

Camp MacArthur bears the name of a distinguished general, Arthur MacArthur, a native of Massachusetts. His military service began in 1862, and during the Civil War he attained the rank of lieutenant-colonel of volunteers, and was awarded a Congressional medal of honor for gallantry in the battle of Missionary Ridge. Following the close of the war he entered the Regular Army and saw service in Cuba and in the Philippines, holding the position of governor of the Islands and commander of the Division of the Philippines. Upon his return to the United States he became assistant Chief of Staff, and was in command at different times of the departments of Colorado, of the Lakes, of the East, and of the Division of the Pacific.

CAMP BOWIE

The National Guard forces of Texas and Oklahoma were mobilized and are being trained at Camp Bowie, near Fort Worth, Tex., in the northeastern section of the State. It is in the center of a vast stock-raising and agricultural region and is one of the leading meat-packing towns of America. Having 11 trunk-line railroads, with 16 outlets, Fort Worth is the great distributing point of the Southwest. The city was merely a frontier post in 1849, and in 1873 had only 1,100 population. Today it is a busy metropolis, with more than 75,000 inhabitants.

Photograph by Edwin R. Jackson

FLAG-MAKERS

They are the flag-makers of the future, for the flag represents just the character and ideals of American citizens. The care and development of the children's minds and bodies must not be neglected in the stress of war. It is the one portion of our national affairs to which the motto, "Business as usual," can be safely applied.

Camp Bowie was named for James Bowie, by courtesy a "colonel," who was born in Georgia and died in Texas. He took part in the Texas Revolution and fell at the Alamo. The bowie knife gets its name from this intrepid frontiersman. In an encounter with some Mexicans he broke his sword to within 20 inches of the hilt, but found that upon sharpening the point he was able to do such execution in hand-to-hand combat that he equipped all of his followers with a similar weapon, since known as the bowie knife.

CAMP DONIPHAN

Situated near the town of Lawton, Kans., in the county of Comanche, on the Fort Sill Military Reservation, Camp Doniphan is the place of training for the National Guard forces of Kansas and Missouri. Here also is located a field artillery training school for the Regular Army. In 1901 Lawton, as a part of the Comanche Indian Reservation, was opened for settlement. By the day set for the opening 25,000 people were encamped near the vacant town site, forming a tent frontage eight miles long. The lands released at that time were larger than the State of Connecticut and within three months had a population of 50,000.

Camp Doniphan was named for Col. Alexander William Doniphan, of the First Missouri Cavalry. He was born in Kentucky in 1808 and died in Missouri in 1887. During the Mexican War he led an expedition across the Rio Grande, and was marching in the direction of Chihuahua when he was attacked unexpectedly by 4,000 Mexicans. Although greatly outnumbered, he routed the attacking forces and captured Chihuahua. Before the outbreak of the Civil War, Colonel Doniphan was one of the commissioners to a peace convention which met at Washington and sought unsuccessfully to find a basis of compromise upon which both sides could unite and thus avert the then impending military struggle.

CAMP CODY

At Camp Cody, New Mexico, troops from North and South Dakota, Iowa, Nebraska, and Minnesota are being trained. The camp is situated partly inside the limits of the little plains city of Deming, less than 40 miles from the Mexican border. The site offers an expanse of flat country between a branch of the Southern Pacific Railway and the Santa Fe. A plentiful supply of pure water is raised from wells by electric pumps.

Deming has 255 cloudless days a year and sunshine on 308 days; it averages more sunshine than any other camp site. The elevation here is about 4,300 feet. Fifty-nine degrees is the annual mean temperature, with 110° as the highest record of the mercury and 9° above zero as the lowest. The city is a health resort and the trade center of a mining and cattle-raising district. The award of the camp site necessitated the moving of railroad stock yards for sanitary reasons.

This camp was named in honor of William F. Cody, last of the great American scouts, whose fame justly ranks with that of Daniel Boone, Davy Crockett, and Kit Carson.

CAMP KEARNY

Camp Kearny, 15 miles north of San Diego, Cal., where the National Guardsmen of California, Nevada, Utah, Colorado, New Mexico, and Arizona are stationed, is in a country which has some of the aspects of southern France—the gray olive orchards, the mulberry trees of the silk-growers, sparkling blue sea, and golden sunshine.

Nature has lavished beauty, fertility, and an almost perfect climate upon this region. The coldest month has an average temperature of 54° and the warmest month averages about 70°.

Between San Diego and the camp site is the old Mission of San Diego, the first settlement of white men in California, dating from 1769. Pacific Beach and Coronado Beach offer the pleasures of the seashore, combined with semi-tropical gardens of brilliant color and beauty and modern hotels and comforts.

The harbor of San Diego is one of the finest in the world. Acres of parks and gardens add to the natural beauty of its situation. Commercially it profits by several railroads and steamship lines. Its present population of about 51,000 is almost triple that of 1900.

Camp Kearny was named for General Stephen W. Kearny, a lieutenant in the War of 1812 and a prominent figure in the Mexican War. In 1846 he became a brigadier general and was given command of the Army of the West, with which he conquered New Mexico. He then entered California, with instructions from the Secretary of War to set up a civil government. Later he was ordered to Mexico, in 1848 was appointed Governor of Vera Cruz, and subsequently of Mexico City, where he contracted a fever from which he died after his return to the States.

CAMP FRÉMONT

Camp Frémont is situated at Menlo Park, 33 miles from San Francisco, on the Southern Pacific Railway's coast line. It was intended for the use of National Guardsmen of Washington, Oregon, Montana, Idaho, and Wyoming, but before its completion difficulties arose with the local authorities as to the kind of sewerage system to be installed. The controversy delayed the work of construction, necessitating the distribution among other camps of the Guardsmen originally allotted to this mobilization center. Now practically completed, there are no Guardsmen to occupy the camp. It is being utilized, therefore, to house artillery, cavalry, and infantry detachments of the Regular Army.

Menlo Park is a district of beautiful residences and grounds; one mile east is Palo Alto, the station nearest to Leland Stanford University, while to the south runs the lovely Santa Clara Valley.

The average annual temperature is 58 degrees, and the variation from this throughout the year is slight. The San Francisco region has sunshine 283 days of the year and an average of 141 cloudless days.

Camp Frémont honors a name noted in the spectacular, romantic days of early California and the West. John Charles Frémont, an American, son of a French father, was distinguished as a soldier, explorer, and political leader. His career as an explorer began about 1837, when he took part in railway surveys in Georgia, North Carolina, and Tennessee. His next survey took him farther west and secured him an appointment as second lieutenant in the Topographical Corps, U. S. A.

In 1842, with 21 men, he made his first expedition to the far West, Frémont Peak, of the Wind River Range, receiving its name in that year. The following year he commanded a second expedition, with the object of supplementing the work of Commander Wilkes on the Pacific coast. Frémont's report, published in 1844, created a sensation. His third expedition became of vital importance in the acquisition of California. Upon the refusal of the Mexican officials to allow him to continue his exploration, he fortified his party near Monterey, thus taking the first step of the Mexican War in California. When the settlers of the turbulent Sacramento Valley replied to Mexican threats of expulsion by the capture of Sonoma and by hoisting the "Bear Flag," Captain Frémont took command, creating an American military occupation.

His part in the following events was complicated, and after the war he resigned from the service, feeling that he had been deeply wronged. He led a fourth and a fifth expedition to the Pacific, neither of which yielded important results. He was appointed a major general at the outbreak of the Civil War and resigned from service for the second time in 1864.

His devotion to the project of a Pacific railway involved him in financial ruin during the panic of 1873. From 1878 to 1882 he was Governor of Arizona. In 1890, shortly before his death, he was reappointed a major general on the retired list. Frémont River, Frémont Pass, and the town of Frémont, Ohio, all commemorate his name.

PRACTICAL PATRIOTISM

The National Geographic Society has contributed a subscription to the NATIONAL GEOGRAPHIC MAGAZINE *to every Y. M. C. A. and Knights of Columbus reading-room and every Camp Library (upwards of 1,000 copies) in each of the National Army Cantonments, National Guard Camps, Regular Army Mobilization Camps, Aviation Camps, Embarkation Camps, Naval Camps and Training Stations throughout the United States.*

THE IMMEDIATE NECESSITY FOR MILITARY HIGHWAYS

By A. G. Batchelder

Executive Chairman American Automobile Association

EVERY highway in the country now possesses potential military value, for each dollar saved in the cost of transportation counts in the sum total of war saving. The expense per mile in carrying a bale of cotton in Texas or a bushel of wheat in Minnesota to the nearest market or shipping point figures in the cost to him who uses the finished product.

While we proudly proclaim on all occasions our greatness in every line of development, we have been woefully dilatory in giving thought and attention to a subject that is vital to the progress of civilization. In short, millions of dollars annually are being literally thrown into the ditch through careless and decentralized management of our highway system; and yet we laugh at the thought of any European country trying to compete with us!

HIGHWAY TRUNK LINES ESSENTIAL FOR RAPID TRANSPORTATION OF TROOPS AND SUPPLIES

From the two and a quarter million miles of road in the United States there should emerge a number of great highways, requiring federal consideration in coöperation with the several States, in such manner as to bring forth ultimately a national road system similar to that which has blessed France and added so materially to her wealth, in the proper distribution of her products—aye, and saved her very existence as a nation when the Hun leaped at her throat.

We are just learning how to select these national highways, relieve the States of a part of their road burdens, and at the same time produce great arteries of communication which will fit into a logical plan of nation-wide military defense. Certain of these roads must have a special military importance; others will have only an indirect value. The whole system constitutes a vast network of thoroughfares, each having its special function in meeting the nation's maximum requirements.

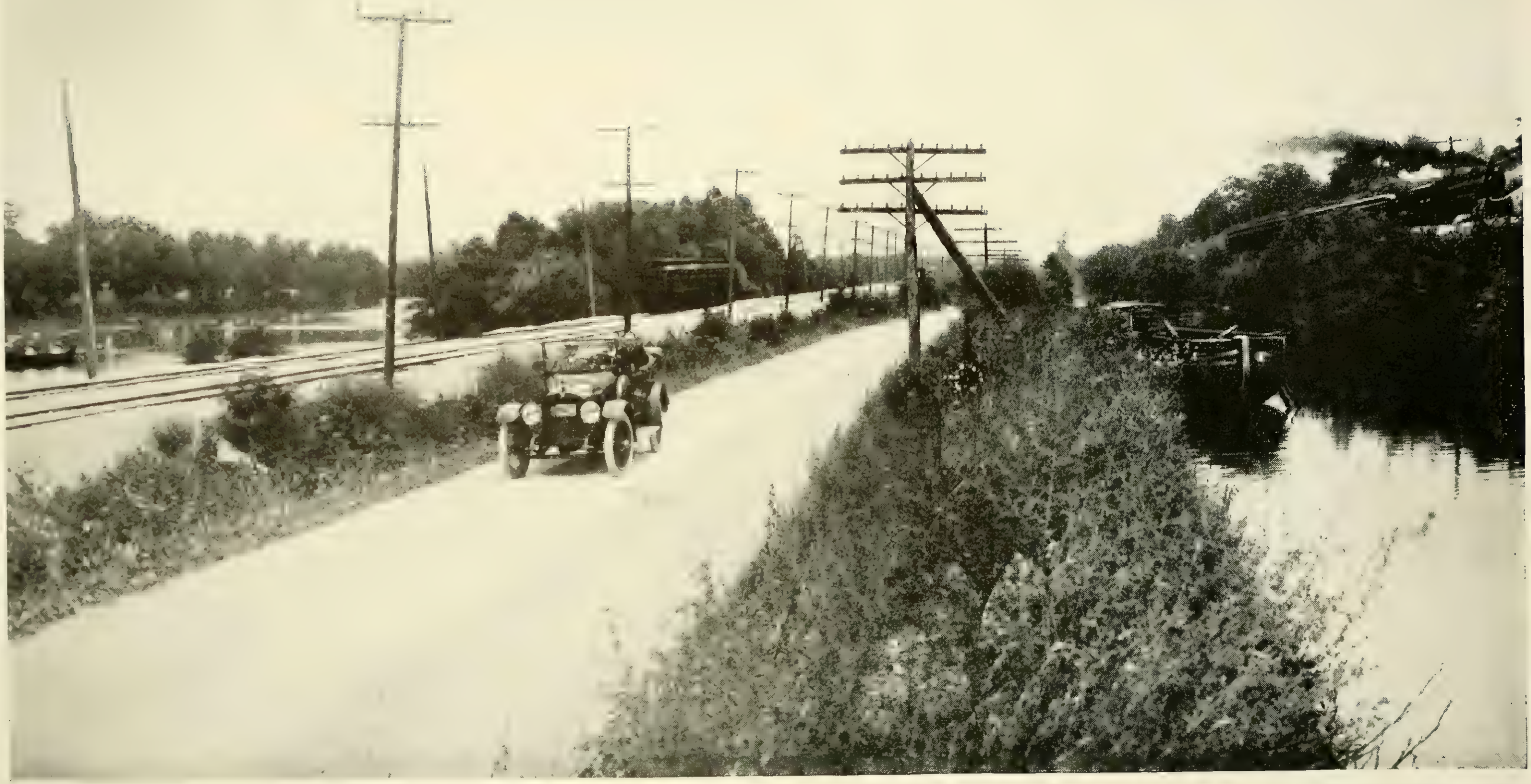
When reference is made to a "military highway" it does not follow that this must be a road over which heavy ordnance will be moved or over which thousands of soldiers are to be transported. Our needs for defense in the present emergency are diversified and far-reaching and have to do with all means of communication.

The "second line of defense" is a comprehensive term. It has been truly said that the practical value of a highway increases as its connected mileage multiplies—town to town, county to county, and State to State—until we link the several sections and thus engender national understanding and coöperation, ridding ourselves of localisms and even shattering the old disintegrating nightmare of "States' rights."

A PROBLEM WOULD BE NO GREATER IN DARKEST AFRICA

Bring to mind a long stretch of road extending from Washington to Atlanta, along which are located six cantonments and training camps, housing nearly 200,000 soldiers; picture it as it is, with many disabling and discouraging miles which try man and vehicle to the utmost, practically impassable during inclement weather, punctuated with bog holes and skidding surfaces, alternating between sticky clay and rock-strewn patches, seemingly unimproved since the Civil War.

Less than 800 miles separate the capital of the country and the chief commercial city of the South. Over a real highway this distance could be covered in 48 motoring hours; a caravan of self-propelled vehicles could transport a powerful



THE AIRPLANE ALONE IS MISSING

In this unusual photograph five ways in which the American travels and transports his worldly goods are shown. At the extreme left is the pleasure canoe on a placid river, beside which runs a double-track electric carline. Then comes the splendid automobile highway. To the right is the tug-drawn canal barge, while on the embankment above is a locomotive and train of passenger cars running at full speed. Observe, also, that overhead are electric, telegraph, and telephone wires, conveying power, light, and information.

Photograph from Office of Public Roads

AN ARMORED CAR AND AUTOMOBILE TRUCKS ON THE TEXAS BORDER

"We are just learning how to select national highways, relieve the States of a part of their road burdens, and at the same time produce great arteries of communication which will fit into a logical plan of nation-wide military defense."

army from one threatened city to the other in that length of time, just as the Huns have frequently moved great bodies of troops from one frontier to another as the strategy of the hour required.

Did not France save both Paris and herself by virtue of a national road system which permitted her quickly to shift her defenders and their equipment by taxicab from the entrenched camp of the capital to a vulnerable point in the enemy's advancing line?

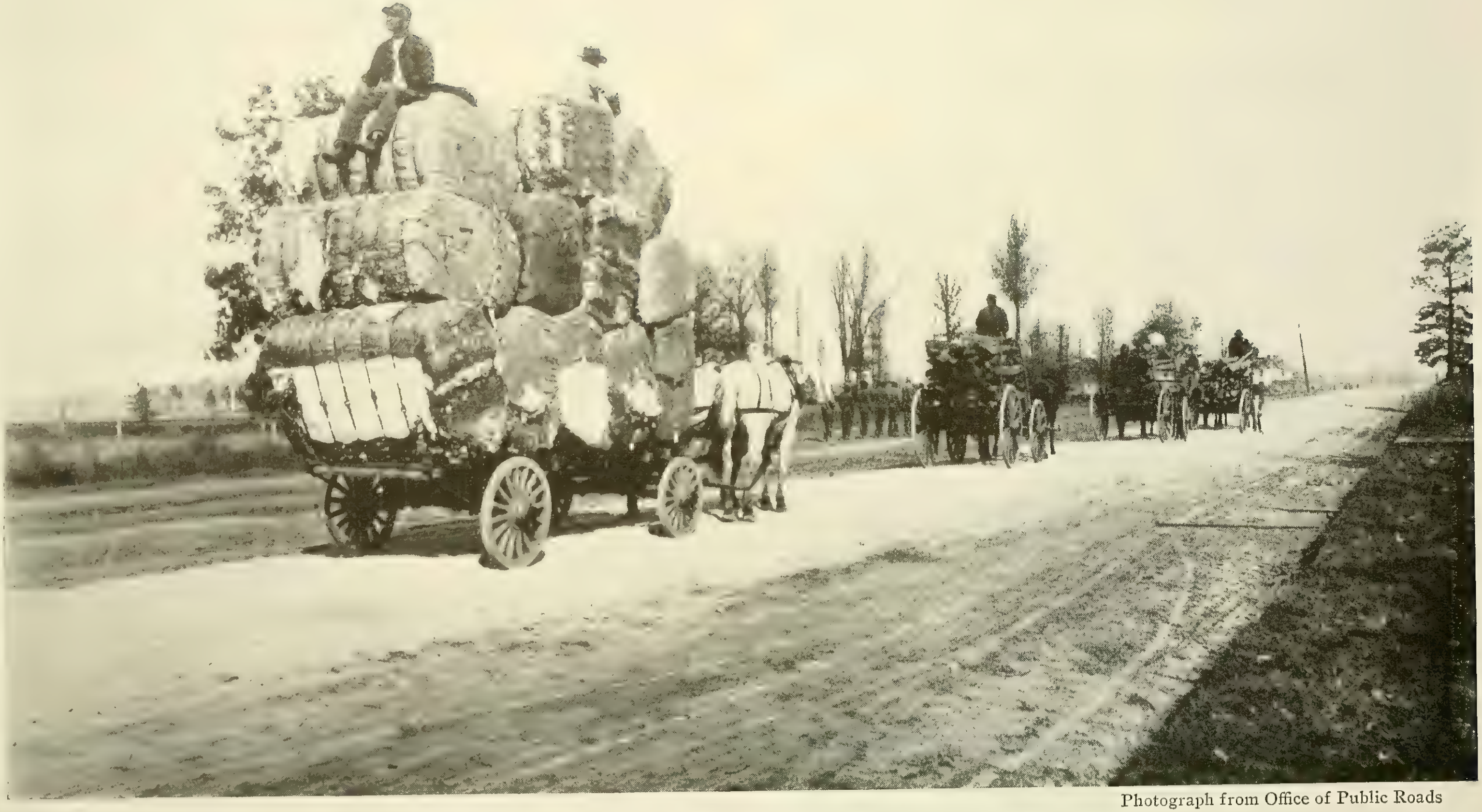
WHY NOT COÖPERATE AS A NATION INSTEAD OF AS A COLLECTION OF STATES?

The most progressive of our lawmakers, realizing the vital importance of a splendid highways system for America, are advocating broad, constructive legislation whereby the national government will assume an active interest and partnership in building those roads which connect the States and which facilitate commerce between the 48 units of which the country is composed.

Intimate relations between the inhabitants of various zones are now sadly handicapped by State lines, imaginary partitions which compel or invite conflicting and selfish laws and in consequence retard the nationalizing influence of the automobile, whose advent has proved as epoch-making as steam or electricity.

The projected Bankhead Highway is an illustration of what can and should be. The construction of this great medium of commercial and social intercourse, from Washington to Los Angeles, an all-year southern route, through latitudes where snow is never a serious handicap and along which no mountains are encountered, would create a living, pulsating example of a federalized road such as is essential in this war-time period of our history.

While it is the occasional traveler who uses a railroad between its extreme terminal points, the rails must be laid for the entire distance in order that inter-related and overlapping traffic, both passenger and freight, can be handled. If this is the situation in regard to railroads, how



Photograph from Office of Public Roads

THE PROCESSION OF PROGRESS TRAVELS THE ROUTE OF GOOD ROADS

Every bale of cotton which a good road permits the farmer to add to his wagonload increases his profit and decreases the cost to the ultimate consumer. Such splendid highways as this, in Mecklenburg County, North Carolina, enhance the material and social wealth of the community through which they are built.

ROADS GOOD ENOUGH FOR MILITARY PURPOSES MAY SAVE THE UNITED STATES AS THEY SAVED FRANCE

Ready for the start on the military motor-truck test over the Dixie Highway, from Atlanta, Ga., to Fort Oglethorpe, Tenn. One test consisted of transporting 18 soldiers with their full field equipment. The trip was accomplished in 5 hours and 32 minutes, a saving in time of 3 hours over the railroad route and in money of $2.84 per man (see page 491).

Photograph by Baltimore & Ohio Railroad Company

A RELIC OF ROBBER BARON PRACTICES IN THE FEUDAL DAYS

Hundreds of years ago brigand knights installed themselves in castles which commanded the highways of commerce. From these strongholds they kept a watchful eye upon all traffic, and from each traveler, be he merchant, priest, or soldier, there was exacted a heavy toll for the "privilege" of passing in the shadow of these castles. On their misnamed "public highways" a few of our States are following the example of the robber barons, exacting a toll from every person passing over their thoroughfares. This toll-gate is near Harpers Ferry, West Virginia.

Photograph from Office of Public Roads

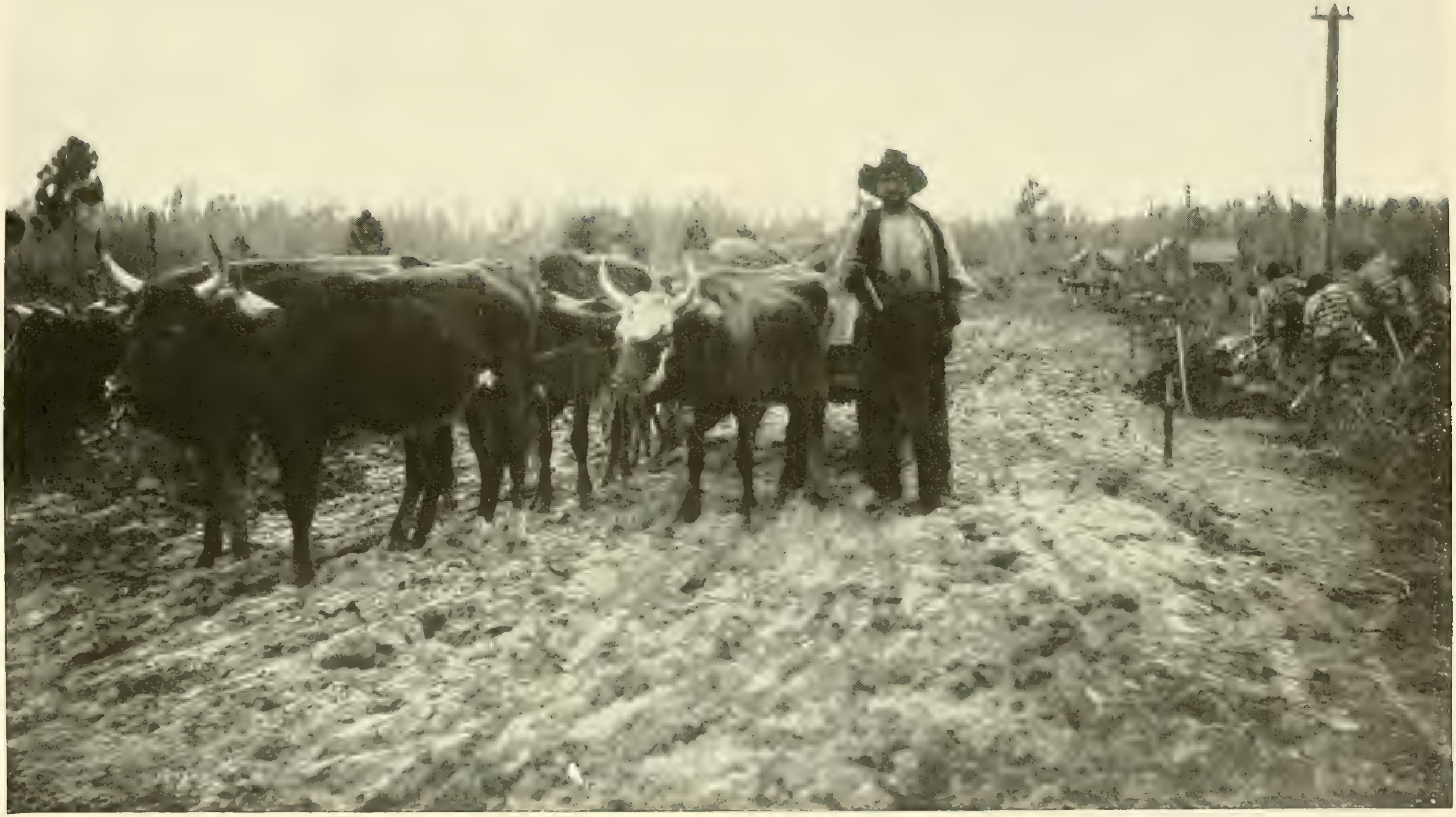
CONSTRUCTING A GOVERNMENT OBJECT-LESSON ROAD IN GEORGIA

In her hour of gravest peril it was her magnificent system of highways which saved France—when the Hun leaped at her throat. Her roads were constructed at a time when the occasion for their employment for military purposes seemed far in the future, but the need for them came suddenly and without warning. Forethought on the part of America may serve a similar end.

Photograph by Putnam & Valentine

HIGHWAYS DENOTE CIVILIZATION

"Most of our States have scenic attractions that would cause any European country possessing them to invite the whole world to come and see; yet how few such assets, when you consider the vastness of our country, are accessible by road."



Photograph from Office of Public Roads

THIS GEORGIA DIRT ROAD, OVER WHICH OX-DRAWN VEHICLES ALONE CAN MAKE THEIR ACCUSTOMED "SPEED," WILL SOON BE READY FOR TRANSPORTATION OF THE FARMERS' PRODUCE AND FOR MOTOR TOURIST

Long before the Civil War the ox-cart was used in the South to convey cross-ties from the pine-lumber camps to the seaboard, where they were shipped throughout the United States to be used in the construction of the nation's railroads. With the decrease in our pine forests the cost of ties has mounted amazingly. One way to lower this cost, it has been found, is to improve the roads over which the ties are brought to tidewater. To the right of the picture convicts may be seen mixing clay and sand, to be used as a hard surface for this Glynn County road, on the outskirts of Brunswick, Ga.

Photograph by Manning Brothers

WHEN OUR AMERICAN ROADS ARE GOOD THEY ARE VERY, VERY GOOD

A superb concrete highway in Wayne County, Michigan. Such thoroughfares as these are an asset not only to the communities which they serve directly, but to the whole nation.

AND WHEN THEY ARE BAD THEY ARE HORRID!

A stretch of "highway" through the Chapawamsic Swamp, Va. Such quagmires cost the State thousands of dollars every month and impede national prosperity to a degree which cannot be computed in money values.

Photograph from Office of Public Roads

WHAT REAL ROADS DO FOR THE PEOPLE

"In comprehensive transportation plans it is now essential that highways be given equal, if not greater, consideration than rail lines. Main arteries must accept the multiplying traffic of the tributary roads, which means rugged construction and systematic maintenance."

much more insistently it must apply to highways building in connection with those roads within a State which unite with similar roads in adjoining States; for if we are a nation, why should intercourse cease or hesitate when a State's border is crossed?

FEDERAL AID FOR STATES IN BUILDING GOOD ROADS

Under the provisions of the Federal Aid Road Act, achieved by the distinguished Senator from Alabama, John H. Bankhead, the money contributed from the national treasury, to which the States add a like amount, can only be expended upon roads over which United States mail is delivered or may be delivered. There exists no provision whereby military needs can be taken into consideration, and the present situation demands the early passage of a law which will grant to the Secretary of War authority to build roads used by the army. The Chamberlain-Dent bill gives the Secretary of War authority to build military roads into the authorized cantonments and camps from nearest railroad or water transportation centers. At the present time he is authorized to spend millions for building the camps, but not a cent to construct a road within their limits nor to connect them with anywhere else. The War Department thus finds its hands tied when it comes to obtaining a more complete line of communication with its soldier cities in the Southland, where for years the problem of roads has scarcely been touched, owing to the poverty of a great many counties, as well as slowness of the people in realizing the importance of all-year highways.

Not until the motor-road travelers began to multiply and gradually extended their journeyings from county to county, and then from State to State, did we begin seriously to consider and view things from the national standpoint.

True, the number of our States had gradually increased until there were forty-eight, connected in a way which at times betrayed startling defects in na-

Photograph by Putnam & Valentine

CALIFORNIA IS DEVELOPING A SPLENDID HIGHWAY SYSTEM

"The projected Bankhead National Highway is an illustration of what can and should be. The construction of this great medium of commercial and social intercourse, from Washington to Los Angeles, traversing the Sunny Southland throughout the entire distance, would create a living, pulsating example of a federalized road, such as is essential in this war-time period of our history."

USING A DRAG IN THE IMPROVEMENT OF A ROAD IN NORTH CAROLINA

"Under the provisions of the Federal Aid Road Act, achieved by the distinguished Senator from Alabama, John H. Bankhead, the money contributed from the national treasury, to which the States add a like amount, can only be expended upon roads over which the United States mail is delivered or may be delivered."

tional cohesiveness. While the Civil War had settled certain fundamental problems, there yet remained at issue many points in which Federal and State contact produced explosions in the nation's combustion chamber. States grudgingly gave up what they considered their "rights," yet citizens generally came to recognize that the whole must be greater than any one of its parts if it is to survive and actually flourish in the form of a united nation.

YOU GENERALLY LIKE YOUR NEIGHBOR—WHEN YOU KNOW HIM

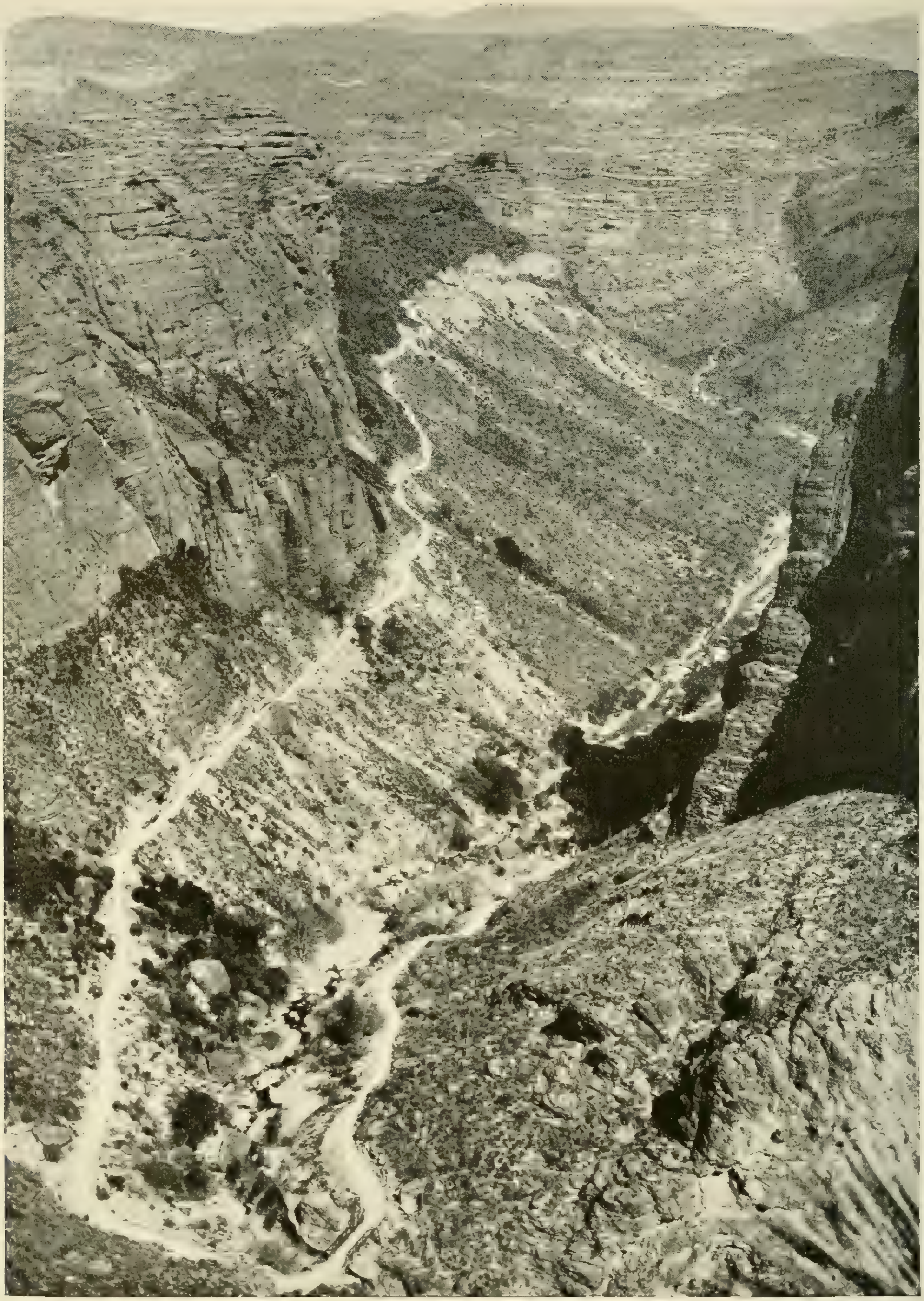
Acquaintanceship does much to dispel prejudices and dislikes, and so the increase in the number of self-propelled vehicles and the building of thousands of miles of roads, facilitating the comings and goings of the people of the several States, have brought about a country-wide understanding among citizens of all sections and awakened true nationalism.

Having within a State established the proposition that the more thickly populated and wealthier counties must aid and coöperate with the poorer and less developed sections, it was only a step farther to contend that the older and richer States must give of their accumulations and strength to the less populous and less prosperous commonwealths.

While a man in a certain State might pay a considerable income tax, it does not follow that all of his investments and all of his profits accrue within the confines of the particular State in which he lives. Therefore, a part of what he pays should be employed in the development of the whole country and not confined to the federal coöperation which specifically relates to his State. We must, in the final analysis, think in national terms.

A NECESSITY FOR COMMERCIAL DEVELOPMENT; VITAL IN WAR

From Calais, in Maine, to Miami, in Florida, our Atlantic coastline has a length slightly in excess of 2,000 miles. From Puget Sound to San Diego our Pa-



THE EAST, WEST, NORTH, AND SOUTH BECOME ONE WHEN ROADS LINK THEM

A highway in one of our Southwestern States which has a grade falling 1,000 feet in one and a quarter miles

THE PRICE OF GOOD ROADS, LIKE THAT OF LIBERTY, IS ETERNAL VIGILANCE

Having built a highway, it is sound economy to keep it in perfect condition. Here a road-mender, with his supply train to the left, is seen repairing cracks in the highway surface.

cific coastline is several hundred miles shorter. Two broad, well-built highways paralleling these coastlines, supplemented by a large number of lateral feeder roads, would serve the purpose of establishing military defense arteries advertising distinctly that we were ready for any callers who might pay us an unfriendly visit, and in addition these interstate avenues would meet the commercial and social needs of the regions through which they passed.

Roads of this character would link our seaports in such manner as to encourage coastal commerce and the amplified use of our waterways in relieving the excessive demands upon other means of transportation. In the motor truck we have obtained the land vehicle with which commercially to abridge distance and reduce in no small degree the unprofitable handicap of freight terminals.

PRACTICAL TESTS OF MOTOR TRANSPORTATION

Not long ago the feasibility of motor-truck transportation was demonstrated between Atlanta, Ga., where the Quartermaster's Supply Depot for the Southeastern Department is located, and the cantonment at Fort Oglethorpe, just outside of Chattanooga, Tenn., a distance of 130 miles, over a road that can only be called "fair," even in dry weather. One test consisted of transporting in a motor truck a detachment of 18 soldiers, with their full field equipment, from point to point in 5 hours and 32 minutes (see page 481).

Taking into consideration the time lost via the railroad route in entraining, switching delays, and marching the men to the station, the truck traversed the distance in three hours less than the time made by rail and, moreover, delivered the men exactly where they were wanted.

The cost figures also present some interesting facts, the saving being estimated at $2.84 per man over one of the routes between the two points and $2.89 per man over another 14 miles shorter, but boasting several stretches of inferior road.

When it came to supplies, the five two-ton trucks met the situation quite economically, the cost being $7.97 per ton against $9.59 in carload lots by rail. Of

Photograph by Craft Shop

A SPLENDID COLORADO HIGHWAY OVER WHICH PIKES PEAK STANDS GUARD

"Acquaintanceship does much to dispel prejudices and dislikes, and so the increase in the number of self-propelled vehicles and the building of thousands of miles of roads, facilitating the comings and goings of the people of the several States, have brought about a country-wide understanding among citizens of all sections and awakened true nationalism."

Photograph from Office of Public Roads

AN ACCEPTABLE HIGHWAY FOR GOATS AND GEESE, BUT NOT EXACTLY ADAPTED TO THE NEEDS OF ARMY AUTO-TRUCK TRANSPORTATION

course, the figures include the cost of transfer to the railroad station from the warehouse. The saving in time was greater proportionately in the freight demonstration than in carrying the soldiers.

A FAIR DISTRIBUTION OF THE BURDEN

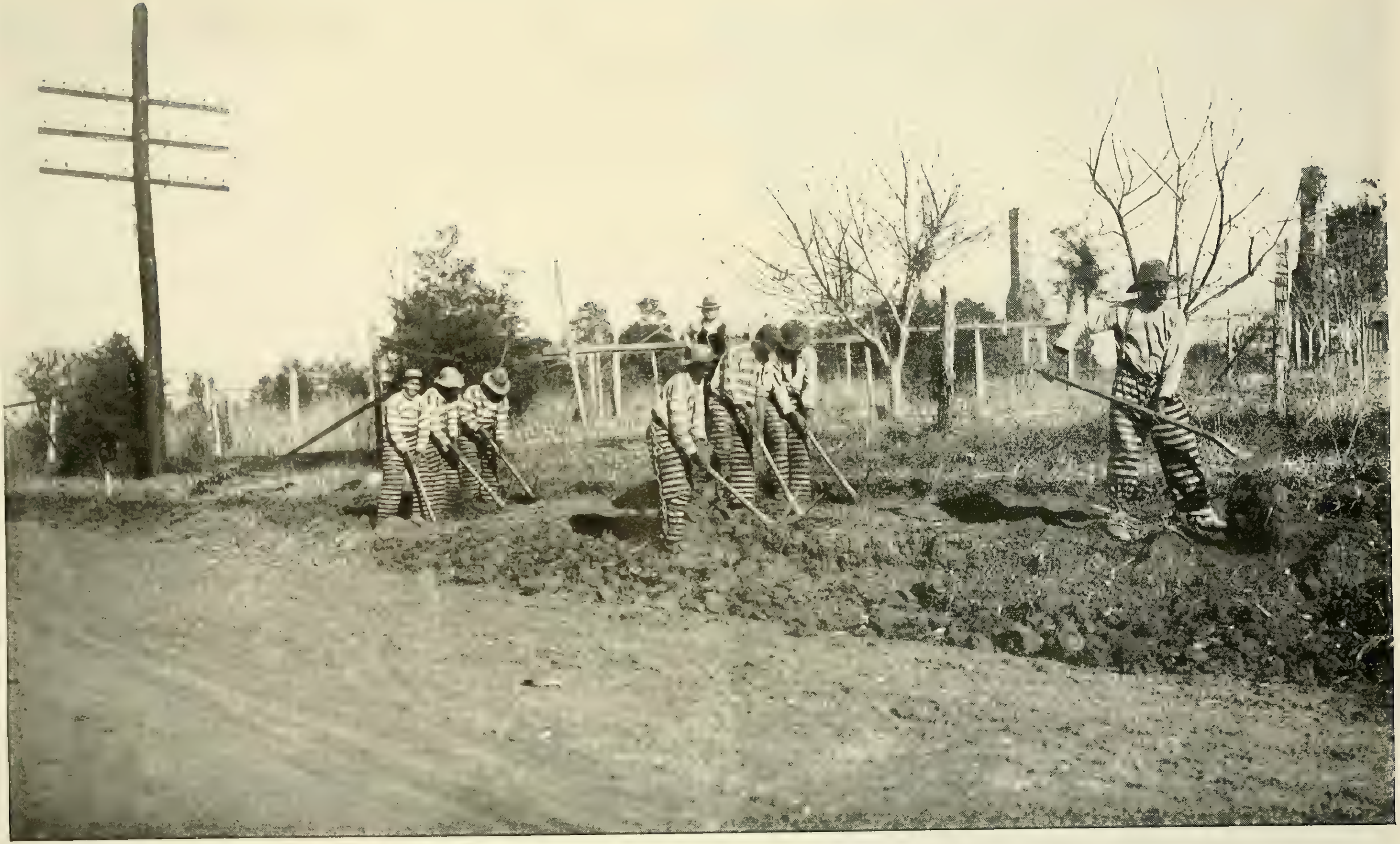
Now consider the familiar question of the proper distribution of road cost and maintenance. The weather conditions for the test were ideal; in wet weather, the thing simply couldn't have been done. Unreasonable in the extreme would be a contention that the counties of Georgia and Tennessee should build and maintain this federal-used stretch of highway, which must be available 365 days in the year in order to make it a reliable means for army transportation, and build it to stand up under heavy military lorries as well as passenger automobiles.

Not only must the States help the counties through which the route passes, but the National Government must come to the help of the States, and, if necessary, accept entirely the burden of maintenance during the progress of any war which necessitates the construction of these training camps and cantonments and presents the problem of providing daily thousands of tons of supplies and equipment.

Atlanta and Chattanooga are both on the line of the Dixie Highway, which extends north to Nashville, Louisville, Indianapolis, and Chicago, and which has an eastern division extending from Detroit to Cincinnati, thence to Knoxville and Chattanooga. It is only just that mention should be made of the fact that Carl G. Fisher, of Indianapolis, who originated and had much to do with the splendid progress of the Lincoln Highway, was also a prominent factor in the advancement of the Dixie Highway, projects that are not created to run by any particular individual's garden gate, but to link counties and States into a nation.

HIGHWAYS NOW IN USE FOR WAR PURPOSES

Certain sections of the Lincoln Highway serve a valuable interstate purpose



WHAT MORE USEFUL SERVICE TO THE STATE COULD BE RENDERED OR ONE MORE HEALTHFUL TO THE CONVICT?

"From the two and a quarter million miles of road in the United States there should emerge a number of great highways, requiring federal consideration in coöperation with the several States"

Photograph from Office of Public Roads

LOWERING THE COST OF LIVING: TRANSPORTATION FACILITIES, FEDERAL-AID ROAD BETWEEN PORTLAND AND BRUNSWICK, MAINE

"From Calais, in Maine, to Miami, in Florida, our Atlantic coastline has a length slightly in excess of 2,000 miles. From Puget Sound to Tia Juana, our Pacific coastline is several hundred miles shorter. Two broad, well-built highways paralleling these coastlines, supplemented by a large number of lateral feeder roads, would serve the purpose of establishing military defense arteries, advertising distinctly that we were ready for any callers who might pay us an unfriendly visit."

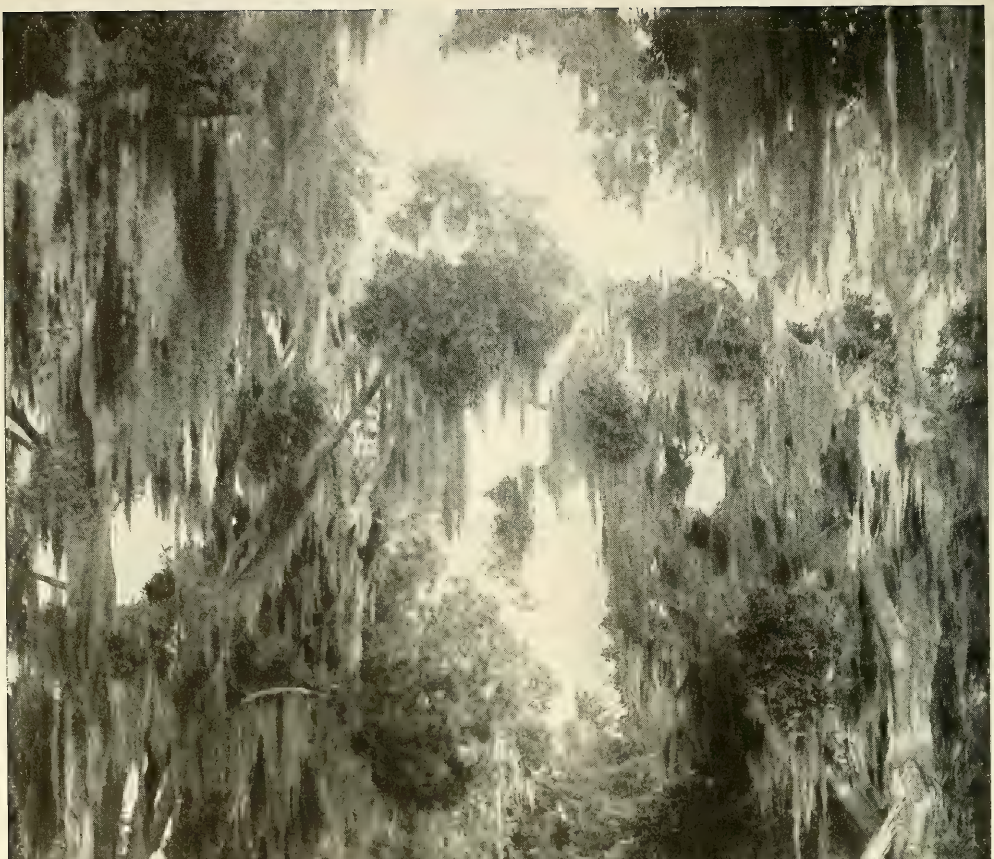
in the traffic congestion of the present hour, particularly with reference to the passage of motor trucks over the road from Northern factories down to the National Capital. Many an automobile factory is delivering its cars to agents by sending them over the road, thus releasing hundreds of freight cars for the all-important transportation of foodstuffs and war material.

The passenger automobile now counts as a transportation asset which can hardly be disregarded in any comprehensive handling of transportation problems which are certain to become worse before they are better.

PRACTICAL ROAD-BUILDING BY GOVERNMENT EXPERTS

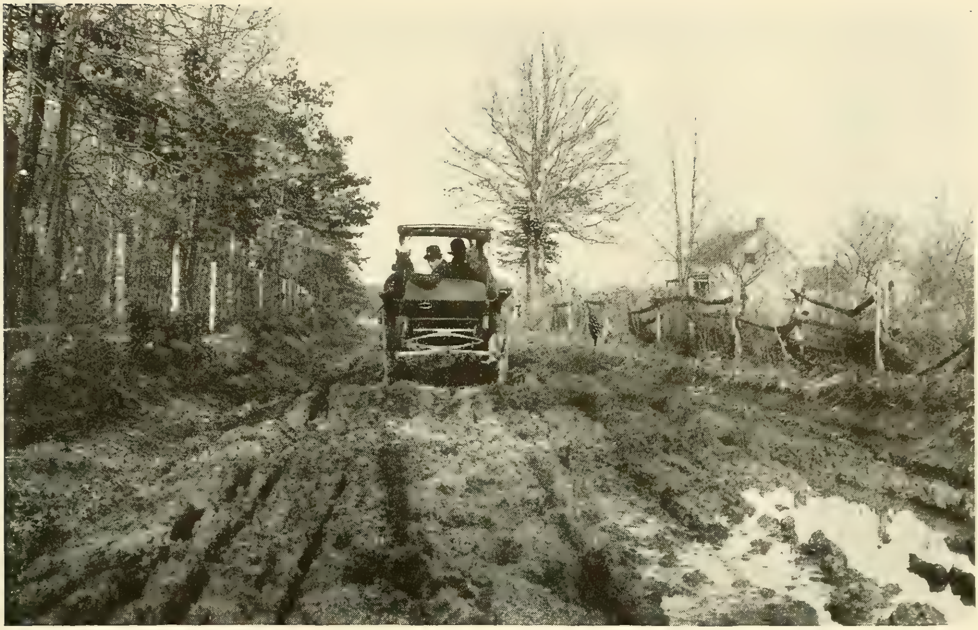
Several years ago the United States Office of Public Roads and Rural Engineering constructed experimental roads in the outskirts of Washington, D. C. During the past six years they have been given systematic attention, including a census of the traffic which has passed over them. On one stretch of Connecticut avenue near Chevy Chase circle a traffic record in 1916 covering a 24-hour period showed 509 motor-propelled vehicles and 50 horse-drawn vehicles going north, and 392 motor and 48 horse vehicles traveling in the opposite direction.

On the Rockville Pike, in Montgomery County, Maryland, a 24-hour period produced 233 motor cars and 28 horse-drawn vehicles going north, and 242 motor-driven and 24 muscle-drawn vehicles going south. On the Mt. Vernon road, in Alexandria County, Virginia, the traffic records supplied an even more preponderant majority in favor of the motor-driven vehicles, there being 577 automobiles as against 13 horse-drawn wagons



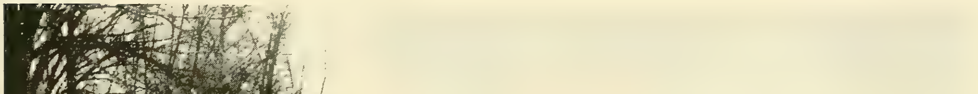
VIEW OF ONE OF THE FAMOUS CHATHAM COUNTY ROADS

Savannah, Ga., is noted for her more than 150 miles of automobile roads in and about the city, reaching the many beautiful resorts within a radius of from 5 to 12 miles. These roads, arched by live oaks, stately pines, and beautiful magnolias, from which hang graceful pendants of gray Spanish moss, present a most pleasing and picturesque sight—one which no artist can reproduce on canvas. On these roads some of the most important automobile races ever held have been run.



SPOTSYLVANIA COUNTY, VIRGINIA, BEFORE

This is the type of road that is proving a terrible liability in the business of nation-building



SPOTSYLVANIA COUNTY, VIRGINIA, AFTER

And here is a real asset, not only to the farmer who uses it every day, but to all the people who buy that farmer's produce one way, and 430 motor vehicles and 12 wagons in the other direction. A 16-hour period over the Russell road, also in Alexandria County, produced only 2 horse-drawn vehicles and 104 motor-driven cars going north, and 3 horse-drawn vehicles and 107 motor vehicles going south.

It would appear from these statistics that one can safely prophesy the early passing of the horse as a means of transportation on most of the principal roads of the country. Economically the horse is being relegated to the fields, for man's great friend performs useful service on the farm and doubtless always will.

If each automobile takes the place of a team of horses, the 4,250,000 cars now in use in the country would release 21,250,000 acres of land for the production of foodstuffs, since it has been shown by actual scientific tests that it requires five acres of land to support one horse per annum and only three acres per man. This released land would therefore supply the needs of 14,000,000 men—a total in excess of the forces employed in the present war by all the Allies.

GOOD HIGHWAYS PROVIDE A MEANS OF NATION-WIDE INTERCOURSE

While the commercial aspect of road-building in relation to the transport of produce from farm to market and merchandise from factory to consumer properly demands great consideration, the fact should not be overlooked that road travel presents social advantages which are as essential to the development of a nation as is the accumulation of dollars. An intimate knowledge of a man's own State, such as is gained by road travel, makes for the betterment of citizenship generally. The man who visits adjoining States has brought to his attention the needs of other sections of the country, and inevitably his viewpoint assumes a national character.

Most of our States have scenic attractions that would cause any European country possessing them to invite the whole world to come and see; yet how few, when you consider the vastness of such assets of our country, are accessible by road; and while it is true that, viewed entirely from a dollars-and-cents standpoint, some of our highways might not be considered commercially important, their construction is essential if American citizens are to enjoy the beauties which Nature provides; and to be a bigger and broader people we must get close to Nature now and then.

AS ESSENTIAL TO A NATION'S PROGRESS AS POPULATION

In comprehensive transportation plans it is now essential that highways be given equal, if not greater, consideration than rail lines. Main arteries must accept the multiplying traffic of the tributary roads, which means rugged construction and systematic maintenance.

Just as every county should have north-south and east-west connections with neighboring county seats, each State should have interstate communication with adjacent capitals and large centers of population, until a truly country-wide road circulation for all purposes is possible.

That the Federal Aid Road Act must produce real results in order that the National Government shall continue its highways coöperation with the several States, is a fact which must be apparent to any student of transportation problems. This plan will collapse if the money supplied from the federal treasury is expended by the States in such manner as to leave indefinite evidence of this much needed partnership. Such practice would give those who oppose the federal venture forceful argument for its discontinuance.

The Secretary of Agriculture deserves much commendation for his insistence that the federal money shall be spent upon highways which enter into the creation of State road systems. Not a few of these roads have a military significance; all of them have to do with food prices.

It is incumbent upon the States to pursue a policy which shall demonstrate that federal funds are not wanted for local road-building, but are to be employed in highway construction which has to do with the ultimate establishment of a national system. This means that every county in a State cannot be given small sums from the federal appropriation, the expenditure of which would leave scarcely a trace of highway benefit.

The average man gives his first thought to his immediate locality, but in this age the scope of his understanding must extend over his State, then encompass the entire country, and finally he must realize that the United States is now a participant in the international arena, playing a commanding part. Such a rôle is possible only when a large majority of the people can sense our changed status in regard to the destiny which awaits the greatest republic of all—a republic in which all citizens recognize that no longer can the individual live for himself alone, and that the only policy to pursue is one of practical altruism, whether it has to do with individuals, municipalities, States, or nations.

IN FRENCH LORRAINE

That Part of France Where the First American Soldiers Have Fallen

By Harriet Chalmers Adams

THIS is the story of my journey to Nancy, Lunéville, and Gerbéviller, in Lorraine—that part of France where the first American soldiers have fallen.

I entered the French military zone as a war correspondent, equipped with a magical little yellow book which carried my photograph and the facts about my nationality, place of birth, magazine affiliation, and residence at home and in Paris. It had ushered me safely past innumerable gendarmes and sentinels on the way to Compiègne and Rheims, even to front-line trenches in Champagne; now it brought me to Nancy, in northeastern France, the most beautiful town in the Republic, capital of historic Lorraine.

On this particular trip the passport permitted a traveling companion, so an American girl engaged in Paris war work went with me. This was her first glimpse of that mysterious precinct known to few civilians beyond its guard-girded borders—"The Military Zone."

This zone, extending 500 miles, from Flanders to Switzerland, stretches south nearly to Paris, taking in the towns we passed en route to Nancy—Meaux, Chateau Thierry, Épernay, Chalons, Révigny, Bar-le-Duc—all gateways to the front. This is the road the Americans have followed on their way to the trenches.

It was a momentous ride by rail to Nancy. In the gray mist of early morning the great Paris Gare de l'Est was thronged. There were trench-worn men, coated with mud, just back from the front, relaxed and hungry, their arms around wives and sweethearts. There were grave-eyed men, in clean, faded uniforms, starting out again after their six days' leave. I can never forget the faces of the women with them. No tears, but they looked as Joan of Arc might have looked ten minutes before she was burned at the stake.

TRAVELING COMPANIONS ON THE TRIP TO THE FRONT

One soldier led a snappy fox-terrier to wage war on the rats in the dugouts. Another was festooned with loaves of bread. Standing in line with us, awaiting inspection of passports, was a young American ambulance driver on his way to the front. His uniform stood out against the mass of horizon blue—vanguard of our khaki-clad hundreds of thousands who will march the bloody road.

We two were the only women on the train. The soldiers dropped off at every station. We passed the River Marne, tree-bordered, grasses swaying in its tide, and skirted the famous battlefield. From the railroad the peaceful hay-stacked fields, vine-covered walls, and russet-tiled roofs showed no trace of that mighty struggle; but I had covered the country by automobile and had seen modern roofs over shell-torn homes. I had seen the graves among the new-mown hay—white crosses with the tri-color; black crosses with the letter "A" for *Allemands*. And near by a sign for the farmer to heed: "In agriculture, respect the graves of the dead."

Near the town of Meaux there is an imposing marble monument which marks the site where the guard of Paris fell. There are holes in the cemetery wall through which they thrust their rifles, those heroes who rushed out from the capital in more than 1,000 taxicabs on that fateful September day.

We passed Épernay, the door to Rheims, where a battalion was on the march, and came to Chalons. Here many officers left the train to motor to Verdun—spick and span, with blue cloth puttees to match their uniforms, all carrying canes. The American ambulance driver left with them.

"I don't know where I'm going," he told us, "but I'm on my way. I'm sure to be on the right road if I'm helping the French."

A GLIMPSE OF A TENTED HOSPITAL

Near Bar-le-Duc hundreds of tired soldiers were resting at farm houses, and there was a solid mile of motor trucks, camouflaged in wavy colors and laden with munitions. At the station ten Missouri pack-mules had their heads out of box-car windows. A group of zouaves sat on the platform winding strips of khaki cloth around their red fezzes. They intended to be on the safe side.

We came to a vast tented ambulance hospital under the spreading branches of trees—trees filled with mistletoe, suggestive of Yuletide joy; and here was pain. We entered a hilly country. Passports were again inspected. We were in French Lorraine.

A famous Frenchman has called Lorraine "the most beautiful burial ground in the world." Flanders is a mud-hole and Champagne is all chalk, but Lorraine is an enchanting land, with harmonious hills and noble trees and fern-bordered streams rushing to the Rhine. The quaint villages which escaped the German onslaught perch on the hillsides like Christmas toys and the humblest vegetable patch is a garden.

But there are tombs in every flower-strewn field, for no region on earth has suffered more from fire and sword. All the races of Europe have coveted Lorraine since the days of the Romans. When the Kaiser waited in the forest with his 10,000 cavalrymen for word from his victorious army that he might cross the frontier and make a triumphant entry into Nancy, he was but following in the footsteps of earlier barbarians who have swept across the Rhine.

WHERE JOVINUS DEFEATED THE TEUTONIC HORDES SIXTEEN CENTURIES AGO

Near the highway, not far from the German border, is a memorial shaft which reads: "Here, in the year 362, Jovinus defeated the Teutonic hordes." And here the Huns were driven back by the French in September, 1914.

It was late afternoon when we reached Nancy—eight hours from Paris. An official detained us half an hour in his office, while the passport was again scrutinized. Going outside the station to look for a cab, we saw a mass of ruins across the street—all that was left of a once popular hotel. Many other ruins stared at us on the way to the Place Stanislas.

The proprietor of the Grand Hotel on the Place said he could give us rooms and we would find a restaurant across the way. He had no "cave," he explained, and there were bombardments. There *had* been a cellar, but it had been out of commission since the house next door was hit. We asked the maid who showed us the rooms when the last bombardment had occurred.

"Sunday," she said, "or maybe it was Monday. They come so often I lose count."

"Why do you stay here?" I asked.

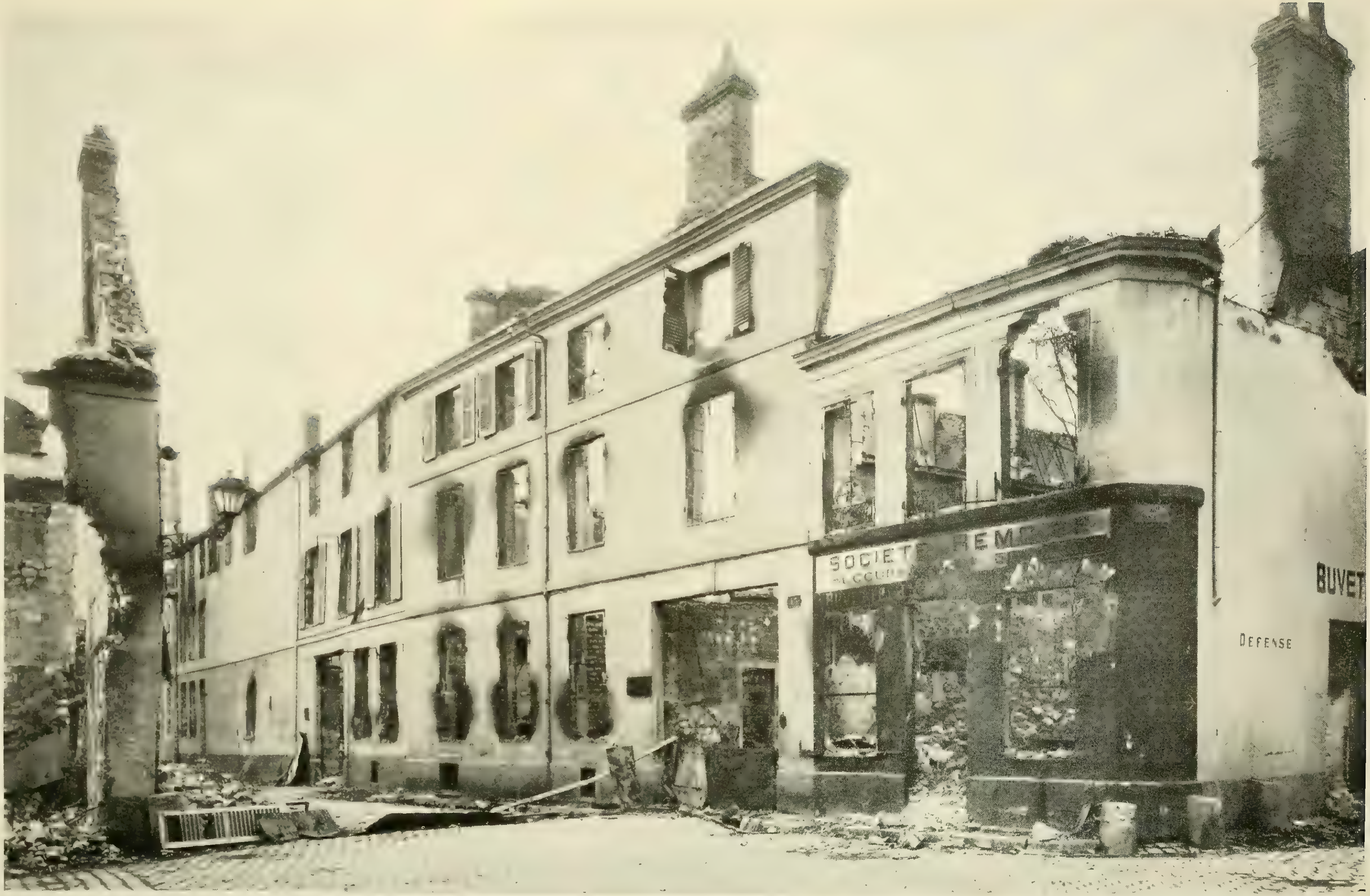
"Because I have four brothers in the trenches, and we all must be soldiers," she replied.

We sent a letter of introduction to the

Photograph from Harriet Chalmers Adams

HOME COMFORTS WELL BEHIND THE LINES

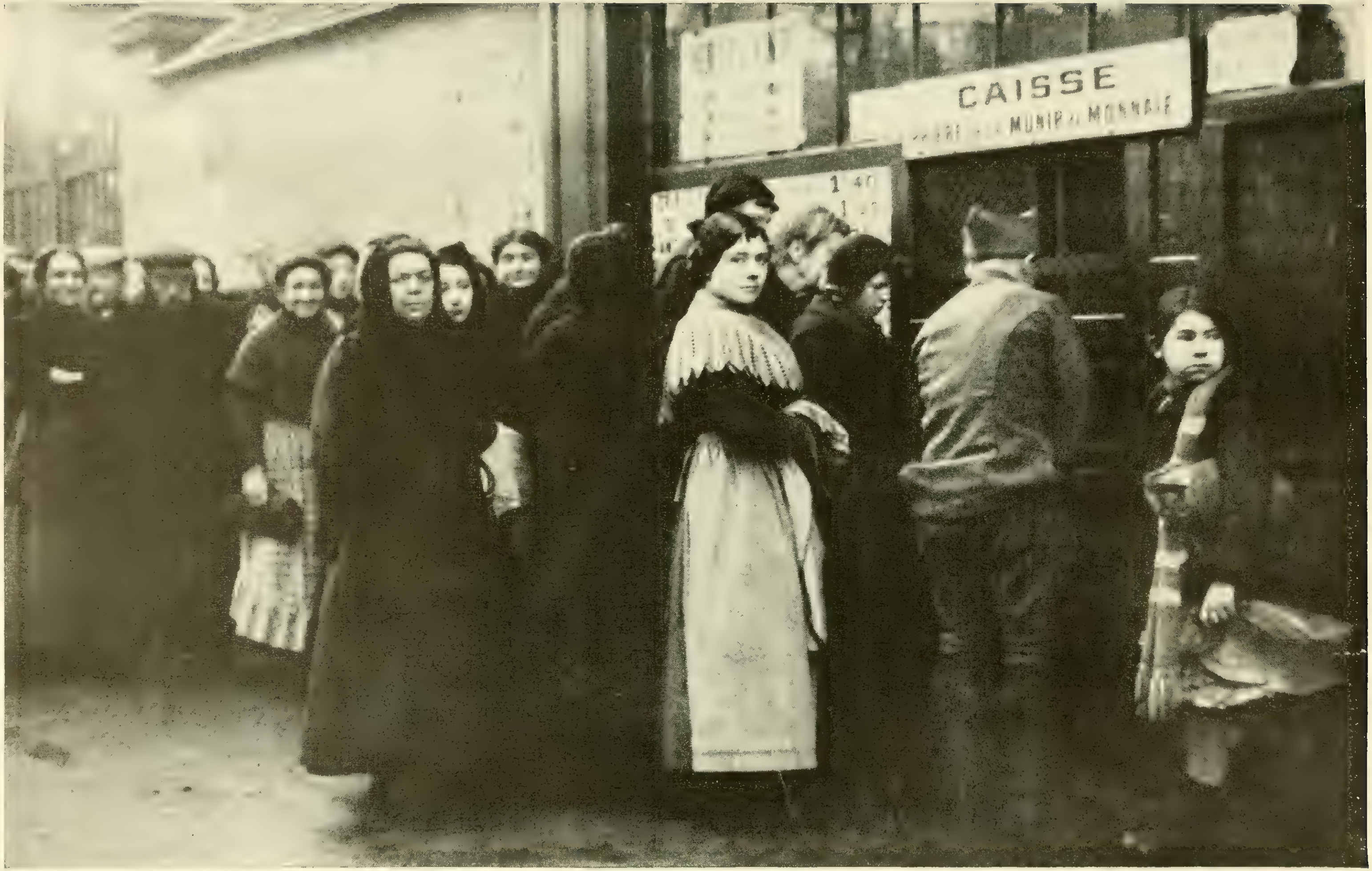
"Flanders is a mud-hole and Champagne is all chalk, but Lorraine is an enchanting land, with harmonious hills and noble trees and fern-bordered streams rushing to the Rhine"



Photograph from Harriet Chalmers Adams

AFTER THE BOMBARDMENT

"Nancy is a little more than five miles from the front and is bombarded by the Boches' most powerful guns, which have a 20-mile range. Their shells come mainly at night, when there can be no warning. In daylight French aëroplanes hover guard over the city to watch for the distant white cloud, which heralds the oncoming shell. The tocsin sounds and 100,000 inhabitants scurry to the cellars.



WORKING WOMEN OF FRANCE WAITING FOR THEIR RATION OF COAL

In the more populous districts of Paris the French Government has allowed each one of the poorer families a certain amount of coal daily, and a line of women with bags and baskets—the wives or widows of the soldiers of France—forms before the depots at the prescribed times

Préfet of the Department of Meurthe and Moselle, and an hour later M. Mirman called—a splendid man, bearded and in unform. All town officials wear uniform in the military zone. At the beginning of the war M. Mirman was Minister of Public Health in Paris. Being past military age, he volunteered for any service, and was sent to Nancy, then in great peril. He was the first to reach the murdered villages in the foothills of the Vosges, where he buried the dead and comforted and sustained the frantic survivors. On his breast is the decoration which France gives to her bravest.

NANCY WORKS ON IN SPITE OF BOMBARDMENTS

Nancy, he told us, is a little over five miles from the front, and is bombarded by the Boches' most powerful guns, the 380 millimeter, which have a twenty-mile range. The shells come mainly at night, when there can be no warning. In daylight French aëroplanes hover guard over the city to watch for the distant white cloud which heralds the oncoming shell. The tocsin sounds the alarm and the 100,000 inhabitants scurry to the cellars. On every house with a cellar a great cross is painted, the double cross of ancient Lorraine.

Few people have left town. Trams are running; shops are open. Nancy has her work to do and keeps at it doggedly. Also, she houses and feeds 3,000 refugees, mostly old women and little children, who have crept over the fields in terror from their cannonaded homes still nearer the German line. The number increases.

"Tomorrow Madame Mirman will take you to see the refugees," the Préfet told us, "and we hope you will dine at the préfecture in the evening."

In pitch darkness we two, strangers to the 380's, groped our way across the Place and felt for the door of the restaurant. We entered a well-lighted room, all warmth and cheer. The windows were heavily curtained that no gleam of light might be detected by prowling enemy air-craft. Many officers were dining; the food was excellent, the prices reasonable. This condition I found throughout France, the marvel of every American who has been over during the war. A tall, straight man, with iron-gray mustache, rose to leave the room; all the others stood up and saluted.

At midnight I opened my window and peered into inky gloom. The air was heavy with danger; the arc of a searchlight pierced the sky, for an instant illuminating the shrouded scaffolding protecting a statue in the center of the Place, that of Duke Stanislas Leczyski, father-in-law of Louis XV. . . . Not a footstep on the street below. I heard a distant cannon boom.

Next morning we went for a walk. Few cities in Europe are as architecturally beautiful as this ancient capital of the Duchy of Lorraine, the Land of Lothair, named after a grandson of Charlemagne, united with France in 1766. Each of a hundred gates and façades is worthy a pilgrimage to Nancy. In the cathedral many women in black were praying before lighted candles. The stained glass windows were broken and mended with paper. Three houses across the street were in ruins. Yet the park near-by was the picture of peace. Shafts of sunlight slanted through the chestnut trees and a black-robed priest sat on a bench in the shadow telling his beads.

AMONG THE REFUGEES FROM HUN-DESTROYED VILLAGES

We went to the narrow old chapel where 84 Dukes of Lorraine are buried. It was closed, but we rang a bell and a woman in black let us in. There is a fine Rubens over the altar. The tombs are protected by sandbags. The glass of windows and dome is shattered and any moment the maniacal Hun may send a shell to demolish the whole. On a marble slab near the altar we read:

"Here Marie Therese Charlotte of Austria, September 11, 1628, came to pray.

"Here François II said, 'By blood in heart I belong to Lorraine.'

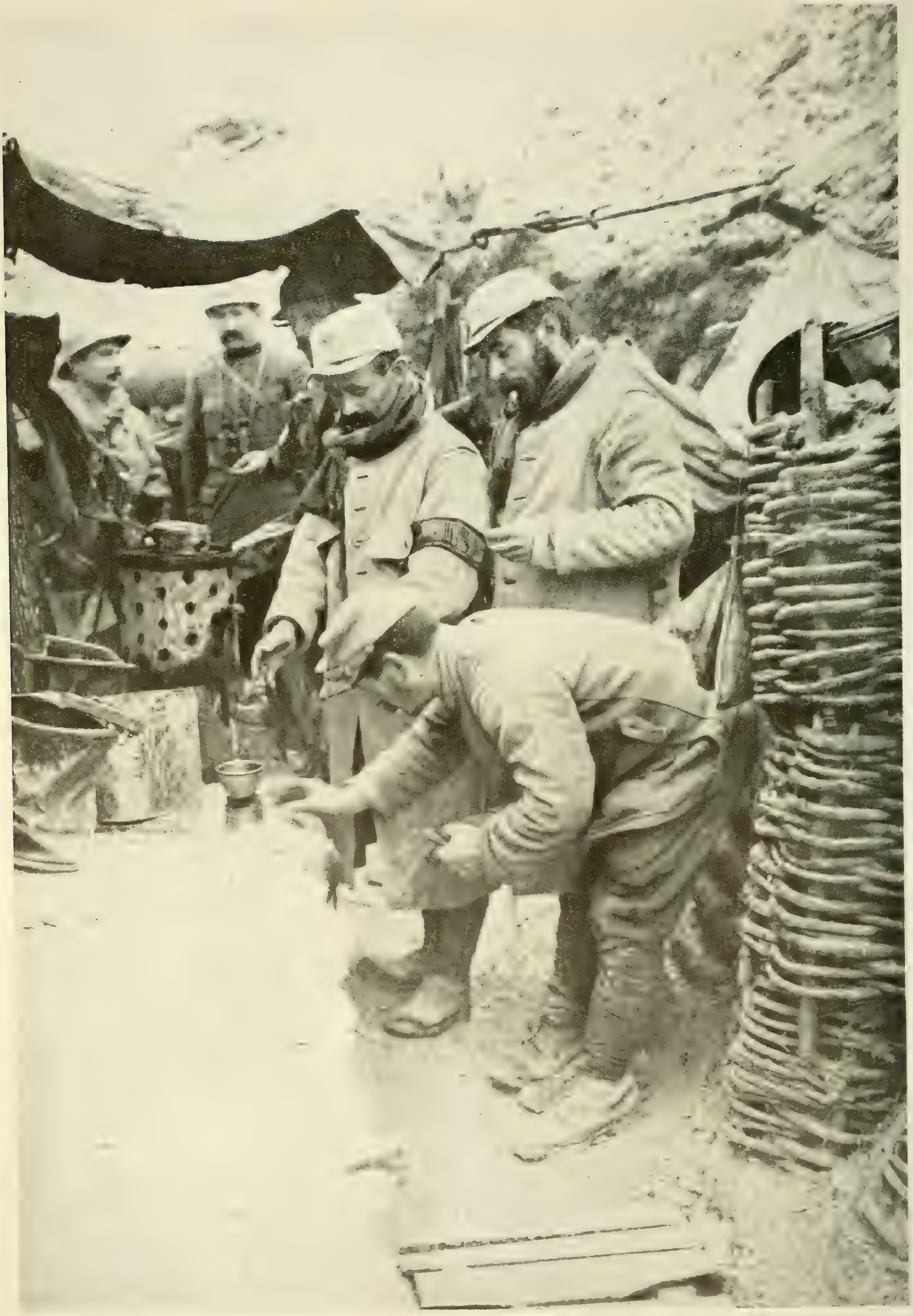
"Here Marie Antoinette, May 17, 1770, came on her way to Paris to marry Louis XVI and knelt at this altar."

The shrine of Austrian royalty! Here Elizabeth, wife of the late Emperor

Photograph from Harriet Chalmers Adams

"UP, SONS OF FRANCE, THE CALL TO GLORY!"

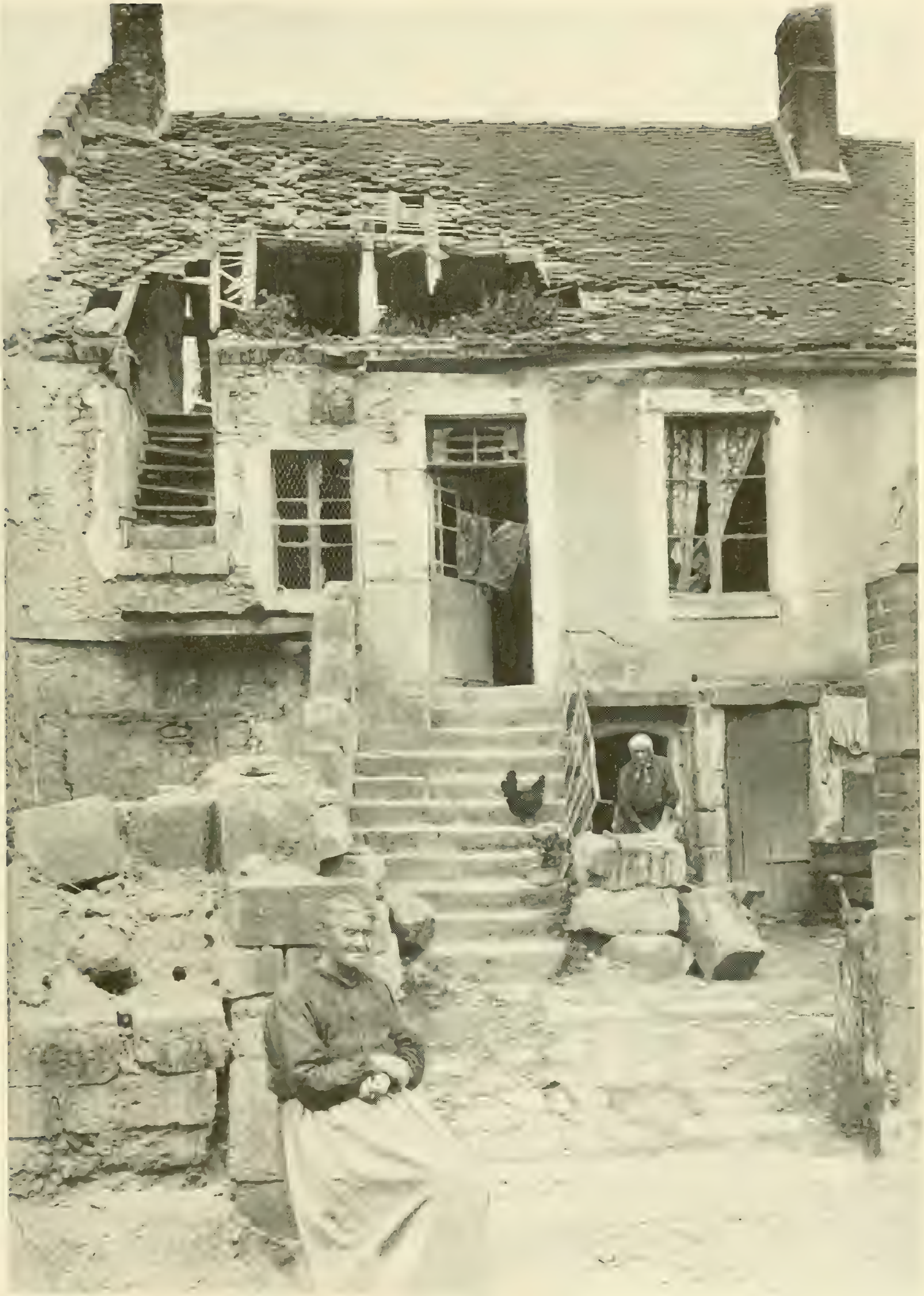
Marthe Chenal, the great French opera star, singing the immortal *Marseillaise*, written in Strassburg, in 1792, by Rouget de Lisle, at the home of an Alsatian patriot



Photograph from Harriet Chalmers Adams

WARMING WINE IN A FRONT-LINE TRENCH DURING A QUIET HOUR

Whereas too many cooks may spoil a broth, here the problem lies not in the cooking, but in the distribution of a gill of grape juice among three collaborating chefs



Photograph from Harriet Chalmers Adams

GRIM PROOF OF WAR'S TOLL

Undismayed by the loss of their loved ones, by the wrecking of their homes, or by the pinch of hunger and the blight of frost, these old women contribute their bit toward the fighting efficiency of undaunted France—they make sandbags for the trenches. On the way to the front our boys pass these shell-riddled homes every day.

Photograph from Harriet Chalmers Adams

WHEN PEACE AGAIN BROODS OVER EUROPE THESE LOVELY DAUGHTERS OF ALSACE WILL BE CITIZENS OF FRANCE

The wreaths of immortelles some day will be removed from the statue of Strassburg which stands in the Place de la Concorde, in Paris, symbolizing the grief of France for her lost provinces of Alsace and Lorraine. In that day the great Republic will take to her arms again her Alsatian children who for nearly half a century have wept for La Patrie.

Francis Joseph, prayed that she might rest. Even a savage would revere and preserve the ancestral tomb of an allied tribe!

Madame Mirman motored us to the barracks on the outskirts of the city, where the refugees from the Hun-destroyed villages are housed. We found as many as ten in one room—grandmother, mother, and children. With food and stove supplied, this was luxury compared with life in their ruined village, but with the shortage of coal throughout France this winter, there is great suffering, I fear, in those bleak barracks in Nancy.

The old women make sandbags for the trenches. One told me she had made 80 in a day. The children attend school, the boys learning trades, the girls domestic science, that they may look out for themselves later on, as most of them are orphans. An American fund in Paris hopes to send a Christmas present this year to every one of these 2,000 homeless children. I asked them to sing and 50 sad-eyed little ones stood up and piped, "Aux morts pour la Patrie." I could not keep back the tears.

I talked with a young woman who was very ill and learned she had been at work in a munition factory in another part of France. I have seen as many as 6,000 women in one of these vast arsenals, and frail girls carrying weights which only strong men should lift. Yet I glory with them in their sacrifice. *The women of France have shown us the way.* Untrained women who have never before rolled a bandage face unflinchingly the most grewsome wounds in their hospital service; to release men for the trenches they perform the most menial tasks, such as removing town garbage. Service and Unity. This is the keynote of France.

SCENES IN A CELLAR DURING A BOMBARDMENT

We left the children playing in the great open square of the barracks and motored back to town. Our automobile was driven by a soldier-chauffeur. I had just remarked that this was the most perfect weather I had known in France when the tocsin shrilled its warning. The soldier stopped the car, jumped off and helped us out and we all bolted for the nearest house with the big Lorraine cross. An old man opened the door and many other people rushed in with us. We had barely reached the cellar steps when the first crash came.

I have never heard anything as ominous as the sound of those Titanic shells, each crushing out homes and human beings. There were 27 of us in the cellar, our aged host and the soldier the only men. One little boy held a dog in his arms and a girl of ten grasped a cage with a pet canary.

We sat on boxes. There was a light, and over in one corner I saw a keg and a sack, evidently containing water and food; and a pickax. How, I wondered, could we dig our way out with that one pickax, should the house be struck! There was an agonized expression on the faces of some of the women whose children were not with them. Madame Mirman tried to lighten the strain by telling how her baby girl had wakened, as they carried her down to the cellar the night of the last bombardment, looked about and said, sleepily, "Encore! The bad Boche!"

By my wrist watch the shells fell every seven minutes. The bombardment lasted three-quarters of an hour, and we remained in the cellar for some time after the last crash, which sounded much nearer than the others. We wanted to be sure the French guns had temporarily silenced the foe. In the post-office, later, I had a near view of a shell of the 380—a mammoth affair; a little larger, but not as pointed nor as graceful in outline as the French 370 on exhibition beside it.

When we reached the street, boys were already flying kites, hoping to rival the planes overhead. Lorrainese children have become accustomed to bombardments. Once 90 shells came in one day. And, too, there are sometimes shells dropped by the wicked Taubes, which dodge like hawks among the aircraft of the tri-color.

THE EVERY-DAY STORY IN BLEEDING LORRAINE

We visited the hospital. Few of the injured had survived. In one bed lay a woman, whose moans were heartrending.

"It isn't her physical suffering alone," the Sister of Mercy told us; "it is her mental torture. She saw her four children die in the flames."

By the next bed knelt a man in trench-stained uniform, crepe on his sleeve. His face was buried in the waxen hand of a little golden-haired girl. "He is just back on leave," they told us, "and she will not live the day out." All the others of his family had been killed outright. This is the every-day story in bleeding Lorraine.

It was a brave dinner at the Mirmans. The Colonel of Lorraine was there; on his breast the Military Cross, the Cross of the Legion of Honor, and the "Croix de Guerre," with five palms, which must be about the record in "citations."

"However on earth did he win them

Photograph from Harriet Chalmers Adams

SHE IS SERVING HER COUNTRY AS A STATION-MISTRESS

The women of France are playing an important part in supplying the armies at the front by accepting employment on the railroads as ticket agents, conductors, freight clerks, and train dispatchers.

Photograph from Harriet Chalmers Adams

ON FAME'S ETERNAL CAMPING GROUND

"There are tombs in every field, for no region has suffered more from fire and sword. All the nations of Europe have coveted Lorraine since the days of the Romans. On the graves wild flowers are blooming—red poppies, blue cornflowers, white daisies. Even in death, Nature in France greets her soldiers with the tricolor."

Photograph from Harriet Chalmers Adams

FORTY THOUSAND FRENCH WOMEN ARE WORKING ON TRAINS, RAILROADS, AND STREET-CAR LINES

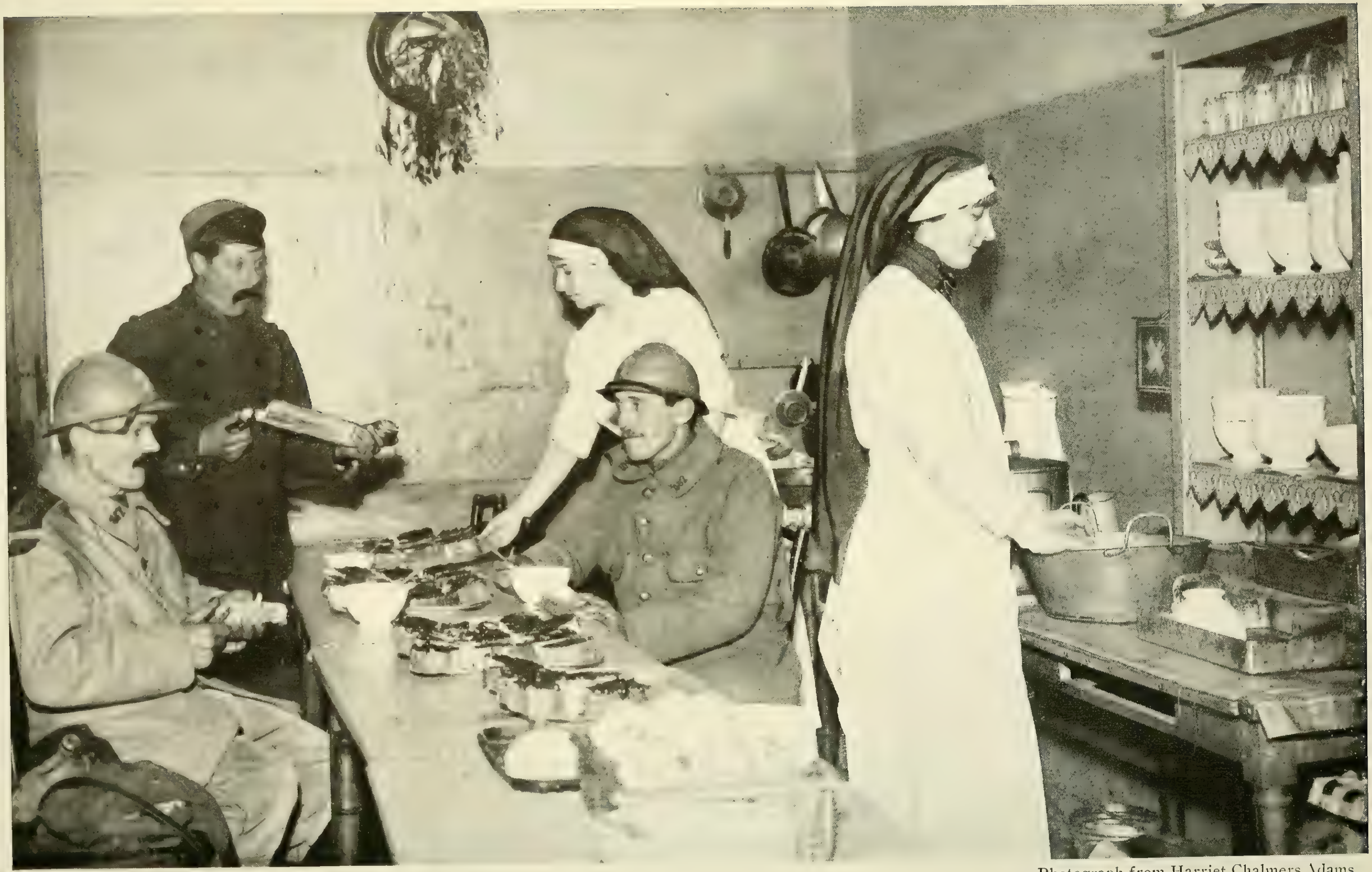
And they go about their work cheerfully, finding in helpful service to their country a panacea for the sorrows and privations which they undergo

all?" I whispered to my fellow-countrywoman.

"I think he must break all rules—go over the top and call for his men to follow," she suggested, with an admiring glance.

Certainly this keen-eyed, clear-skinned colonel was the most soldierly man I met in France, where all the officers are splendid, in their caps as red as the battlefield and their uniforms as blue as the sky. The Commandant of Verdun was another dinner guest; and a New Yorker, just arrived in Nancy in the interests of the Lafayette Kit Fund, which supplies warm underwear and "smokes" to the *poilus.*

"One of our guests may be a little late," the hostess said; and he arrived a few moments later—a young lieutenant, in dark blue, with the insignia of the bird on his sleeve. He had flown over from Paris with a message and would fly back after dinner.

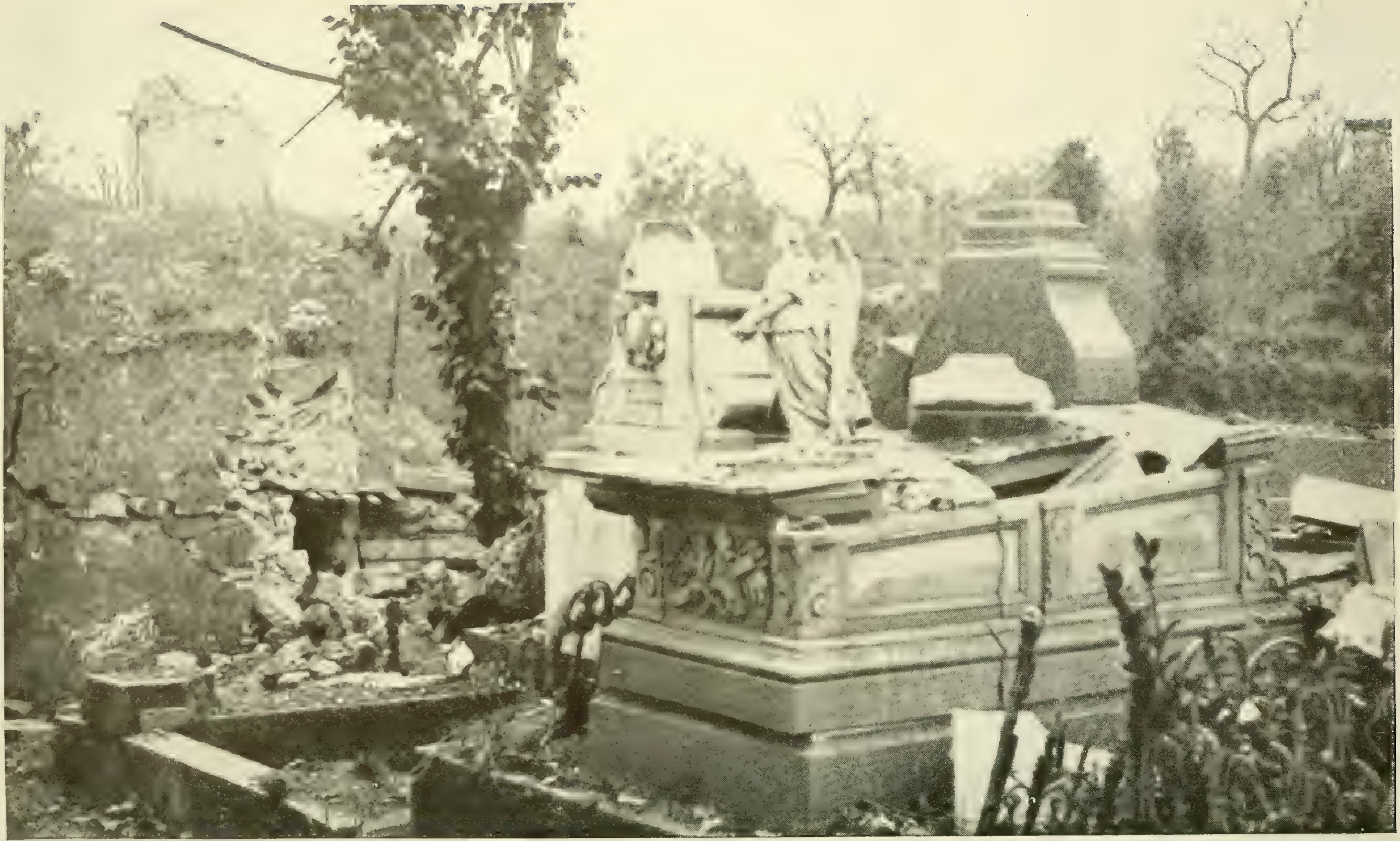


Photograph from Harriet Chalmers Adams

THE GENTLEWOMEN OF FRANCE SERVE IN CANTEENS AS WELL AS IN HOSPITALS

Photograph from Harriet Chalmers Adams

"ALLIES"



Photograph from Harriet Chalmers Adams

THE ANGEL DEFIED THE HUN: FRENCH CEMETERY AFTER A GERMAN BOMBARDMENT

A famous Frenchman has called Lorraine "the most beautiful burial ground in the world"

Photograph from Harriet Chalmers Adams

WRITING HOME: A TYPE OF CAP NOW USED BY AMERICAN SOLDIERS AT THE FRONT

The steel helmet, worn by our men, fits over the cap

It was fascinating to hear of the battle of Nancy from men who had made history. They painted a vivid picture. The Prussian army was ordered to take the city at any cost. The Kaiser himself was waiting to ride, with banners flying, to the Place Stanislas.

THE BATTLE OF NANCY

If the hills of Amance were taken, the road was clear. On swept the Huns. "Deutchland über Alles," intoned by thousands of voices, blended with the hurricane of artillery fire. Unprepared France threw the shells of her 75's and countless precious lives against the foe. By the grace of God, the French held Amance. This was the worst day the Kaiser ever had. If he had won Nancy, he would have won Paris.

Next morning a messenger arrived, asking, in the Emperor's name, an armistice of 24 hours to bury the dead. It was granted. The French expected another assault, but the Kaiser returned to Berlin. When in his capital, by the way, he is within ten hours by express train of every point on his frontier with the exception of Alsace-Lorraine.

From a plateau beyond Nancy one can see on the far horizon the cathedral spires of Metz, capital of lost Lorraine. In plain view are the German villages near the frontier—the frontier since 1870. "The Boche," said our host, "is only a few minutes away by aëroplane."

In plain view from this plateau are the trenches in the vicinity of the Rhine-Marne Canal, where in the early morning of November 3 the Germans raided a salient held by American soldiers, and our first blood sacrifice was made in the front-line trenches in France.

There are many French towns that we will know better before the war is over. If you have not already made its acquaintance, let me introduce you to Lunéville. It lies southeast of Nancy in the foothills of the Vosges, within sight of those purple peaks which mark the southernmost point of the French trenches.

DESOLATION WHERE ONCE STOOD PROSPEROUS, HISTORIC LUNÉVILLE

Lunéville is a gray, industrial town of 20,000 souls, prospering before the war in its manufacture of railway carriages and motor cars, chinaware and chemical salts. A gorgeous château is all that remains of its former glory, when the dukes of Lorraine made it their playground. In their day this palace was gayer than Versailles, and its gardens were noted throughout Europe, serving Watteau's

Photograph from Harriet Chalmers Adams

A FIRST-AID POST AT THE ENTRANCE TO FRONT-LINE TRENCHES

At the very gates to the inferno of battle wait the stretcher-bearers, ready to dash forth and rescue the wounded and dying. Here is pain, but here also are healing hands

pupils as a model when they painted the gorgeous fêtes of the Far East. The château is now occupied by the mayor, M. Keller, who played an important rôle during the German invasion of the town.

Madame Mirman motored us out to Lunéville. Although she is the wife of the préfet of this whole department and known by sight to every sentinel on the road, the automobile was halted every quarter of an hour for inspection of passports and information as to where we were bound.

In the fields women were mowing hay. I was reminded of a woman I had seen near Rheims. A shell struck a near-by haystack, but she kept on mowing.

We ascended a tortuous road to the summit of the hill of Léomont, where a decisive battle had been fought. There was a most comprehensive view, back over the plain of Nancy, north and east over the French front. In a hollow, at our feet, lay a ruined village which is now being restored through the generosity of a group of wealthy Californians.

From this hill to the one opposite, the battle had raged. We picked up fragments of French and German shells, and the soldier-chauffeur explained "which was which," one being bluer than the other. There were many graves on this hill, and above one I saw a soldier's tattered cap hanging on the little white cross.

"I placed it there over two years ago," Madame Mirman said, "when I came out with my husband. He buried the dead. We did not know the boys' names, but we marked each cross with the number of the regiment, wherever we could."

THE TRICOLOR BLOOMS ABOVE THE DEAD OF FRANCE

On the graves wild flowers were blooming—red poppies, blue corn-flowers, white daisies. Even in death, Nature in France greets her soldiers with the tricolor.

Lunéville shows the hoofmarks of the Hun, those terrible 20 days when the enemy was master of the city. The town-hall and the préfecture were destroyed, the industrial section burned, shops pillaged, homes looted, men and women murdered. Cultured people, like the Kellers, tell the story quietly; but their eyes have a dangerous gleam. "I would gladly have given my life," the mayor said, "if I could have spared my fellow-citizens those horrible atrocities."

Unarmed men fired on; an old woman run through with a bayonet; a mother driven insane at seeing her son stabbed and her daughter carried off by drunken soldiers—such stories are so common in the foothill towns of the Vosges that the very air is polluted. The birds in the château garden have almost forgotten how to sing since the Prussians passed that way.

But on this road there is an even sadder sight than grave, silent Lunéville. It is the skeleton of Gerbéviller, the Pompeii of France. Pompeii was wrecked by the might of God; this town by human hate. To reach the most spectral ruins I saw in all France, we crossed a bridge which will flame in history, the one held by the 75 chasseurs.

THE CHASSEURS WHO ARE TRAINING AMERICAN TROOPS

We have an especial interest in the chasseurs, for they have been training our American boys at the front. No soldiers of France are as picturesque as these sunburnt, fiery-eyed men of the Alpine and Pyreneean heights, who have left the stain of their loyal blood on every frontier they have touched. The Germans call them "the blue devils," and say they can run faster than the chamois, but it is the Boche who runs when they come his way. They are a merry care-free lot. I heard a story of one who fired in a kneeling position instead of lying flat on the ground. When asked by a fellow-soldier why he was so foolhardy, he explained that he had a bottle of wine in his pocket and it had no cork.

During the Battle of Lorraine, 75 chasseurs were posted at the bridge which leads to Gerbéviller. As the German column hove in sight they tore up the pavement, threw breastworks across the bridge, and stationed their machine guns. This was in the early morning. At four that afternoon a lone chasseur fired the last round of ammunition and slipped away to join his companions, 51 of whom had survived. For eight hours 75 Frenchmen had held off 12,000 Germans.

Angered into fury by the machine guns, which had held them so long at bay, the Prussians entered the town, firing and burning every house they passed. Like many French towns, Gerbéviller was built on one long main street, with lanes leading from it. Only stark walls stand. Oil was poured into the cellars to make more of a blaze. If the people remained in the houses, so much the better. . . .

SISTER JULIE, A HEROINE AMONG HEROES

The refugees have crept back. On a mangled wall I saw the sign: "Café of the Ruins." A girl in black was placing a bunch of wild flowers before the broken image of the Virgin on the wall of what was once a church. Only one building in the town stands—the humble little hospice which shelters Sister Julie, one of the great heroines of France.

We rang the doorbell and a Sister of Mercy ushered us into a narrow hallway, and then into a little sitting-room with oil-cloth on the table, and a few stiff-backed chairs. There was a battered organ and an ancient chest and two pictures of religious subjects on the wall. I can see every detail even now, for this was the setting of the woman who defied the whole German army.

She sat upright in her chair with hands crossed—a short, plump woman past 60, with bright hazel eyes, rosy cheeks, and a firm mouth. Sister Julie, whose name before she was Mother Superior was Madame Amélie Rigard, has a most authoritative air. Beneath the cape of her black habit gleams the cross of the Legion of Honor, pinned there by the President of the Republic, who, with many other dignitaries, made a pilgrimage to this remote village to decorate this little old woman.

Sister Julie speaks rapidly, with an occasional gesture. She told us of the 75 chasseurs—how the first to be wounded were brought to her house. She took off the ammunition belts and sent them back by a nun to the bridge. When the houses across the street were fired, she went out to a German officer and said, "Don't you *dare* to burn my house. I am caring for the wounded. If you spare my house and the people in it, I will care for your wounded, too." And she kept her word. She mothered the homeless population. The stories she told us made me sick with horror.

AT THE SHRINE WHERE AMERICA WAS CHRISTENED

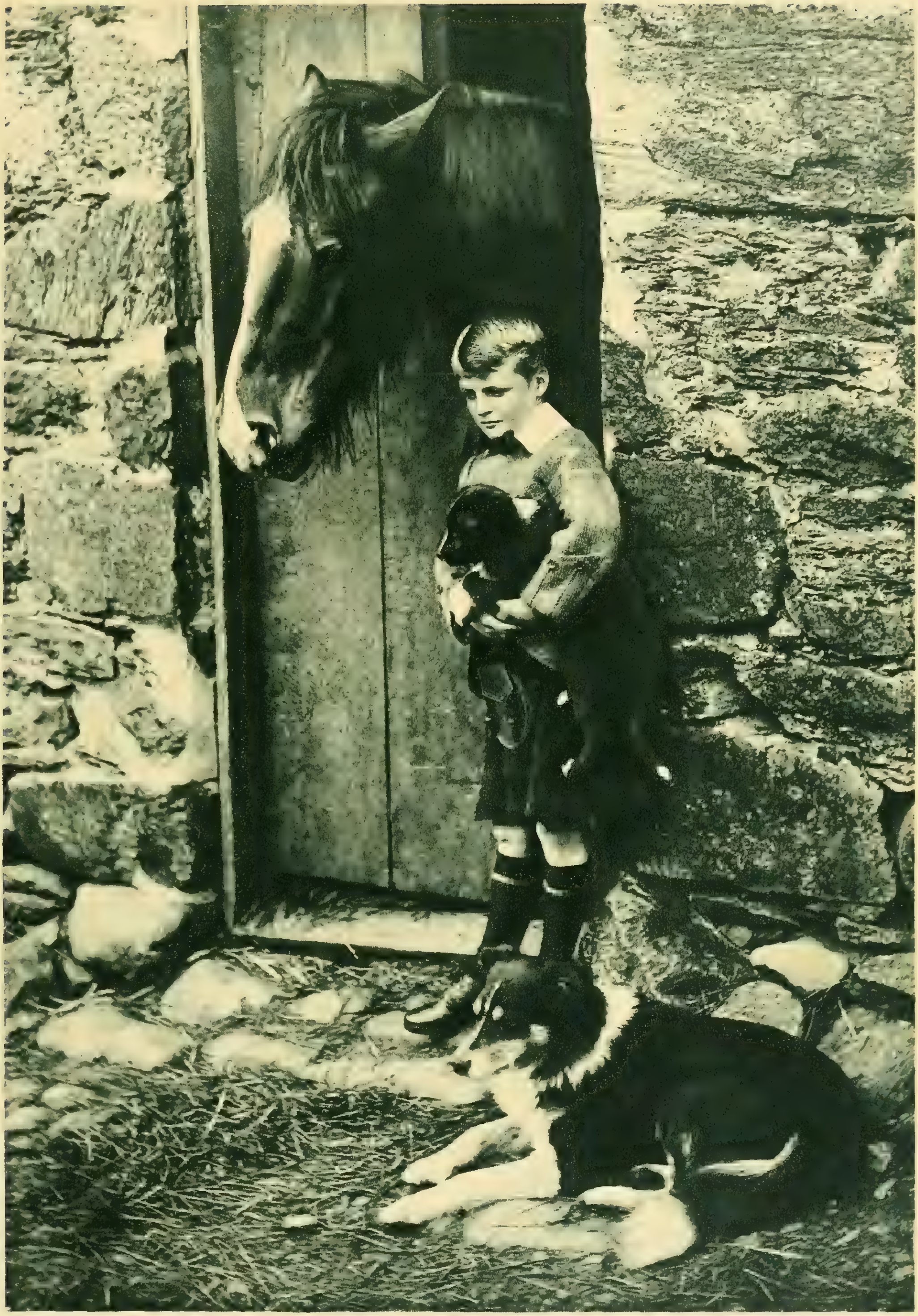
Back of the ruins are shacks erected by the government to house 800 refugees who have returned to their old haunts. The women had just come in from the hop field. They were poorly clad and in need of new hob-nailed shoes. One poor old soul offered me her only chair. She said she was very grateful to have a home again and was comfortable when it was not cold. "But, O, Madame, if only you could have seen those pewter plates over the fireplace in my house that was burned. They belonged to my great-great-grandmother."

A mecca of mine lay beyond Gerbéviller, in the mountains of the Vosges—the old town of St. Dié, where America was named; but it was under heavy bombardment just then and not at home to visitors. Many of our boys have already seen the places I have described, and some of the Young American Lafayettes may wander through St. Dié's narrow streets and, if it has withstood the German shells, even enter the old house where America was put on the map.

America is on the map to stay, and all the Young American Lafayettes are in France to stay until the day of victory. Since my return from the war zone I have been traveling throughout the United States, feeling the pulse of America. I am convinced that, although the awakening is slow with many, we are at last becoming united and will stand the test; that in the struggle to maintain those principles on which our nation rests we will exhibit the same fortitude and spirit of self-sacrifice I met in French Lorraine.

Photograph from Harriet Chalmers Adams

A FLOWER OF FRANCE DECORATES ONE OF HER COUNTRY'S DEFENDERS

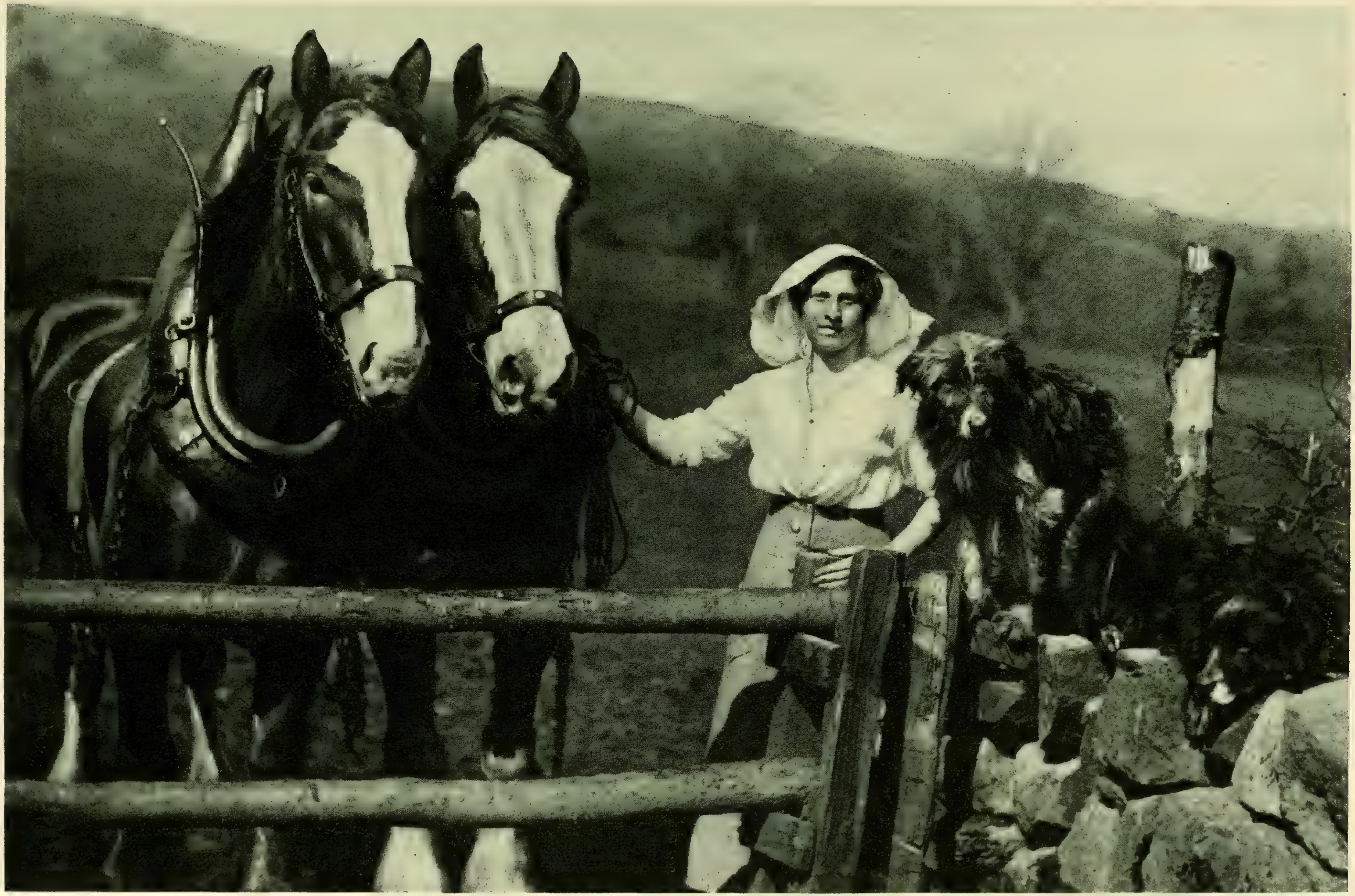


Photograph by W. Reid

BONNIE PRINCE CHARLIE

Photograph by W. Reid

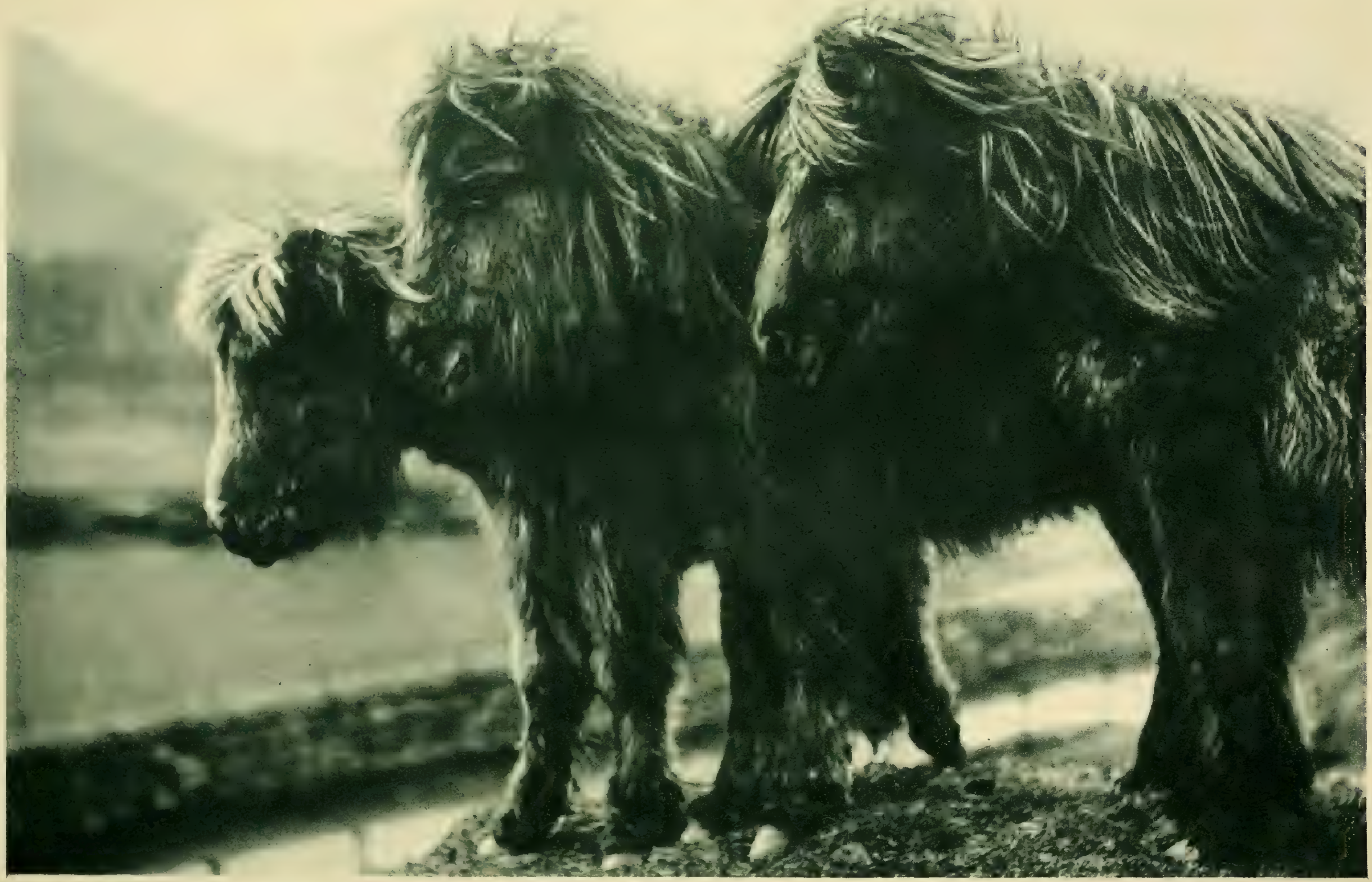
"OF A' THE TRADES THAT I DO KEN
COMMEND ME TO THE PLOUGHMAN"



Photograph by W. Reid

"IN YOUTHFU' BLOOM, LOVE SPARKLING IN HER E'E"

Her promise true given to some soldier sweetheart, this modern Annie Laurie, accompanied by her faithful terrier, performs the duties of the farm, her special care being these noble beasts.

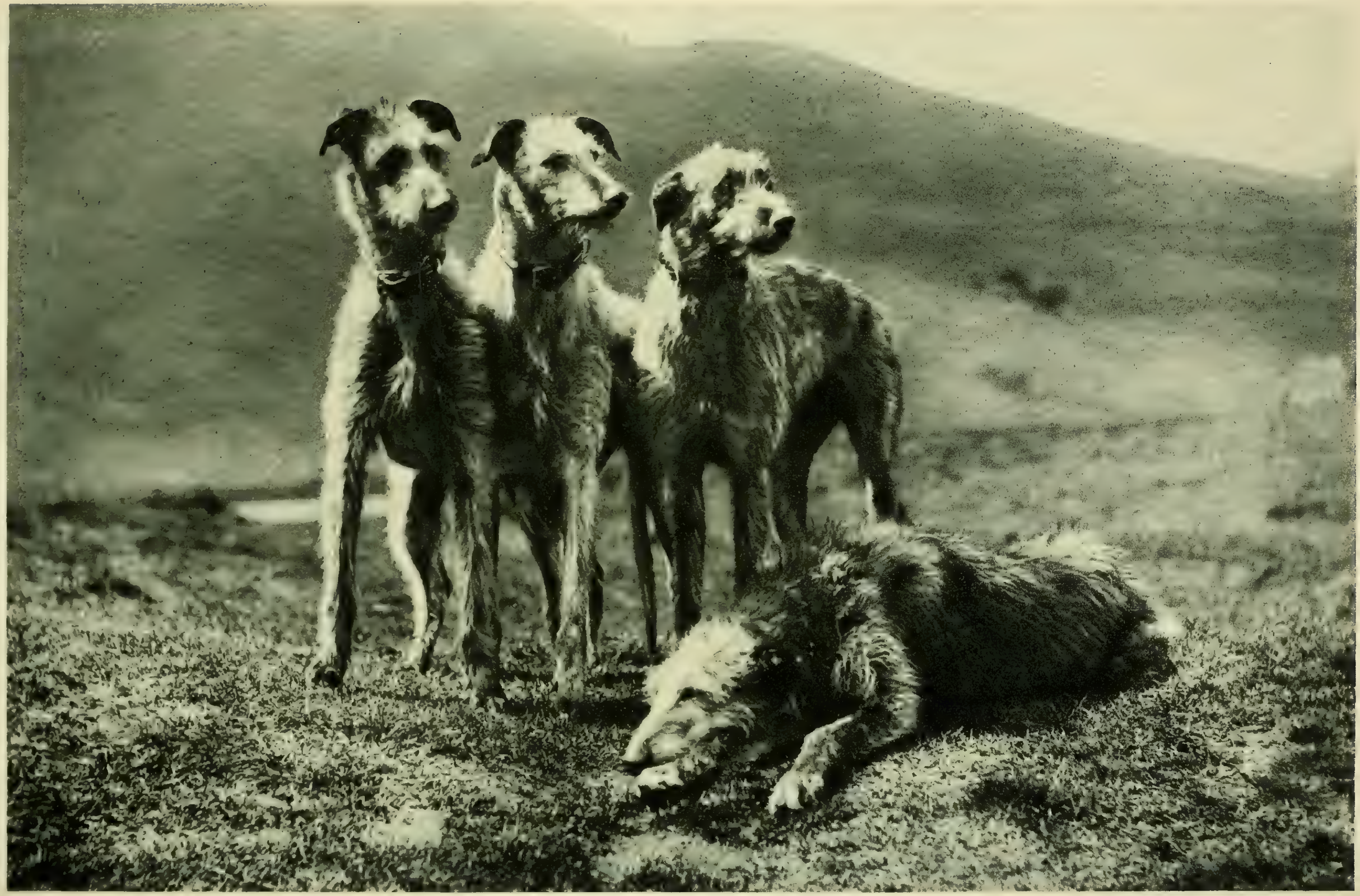


Photograph by W. Reid

HIELAND ORPHANS. HICKERY—DICKERY—DOCK

Photograph by W. Reid

MAN'S BEST FRIENDS

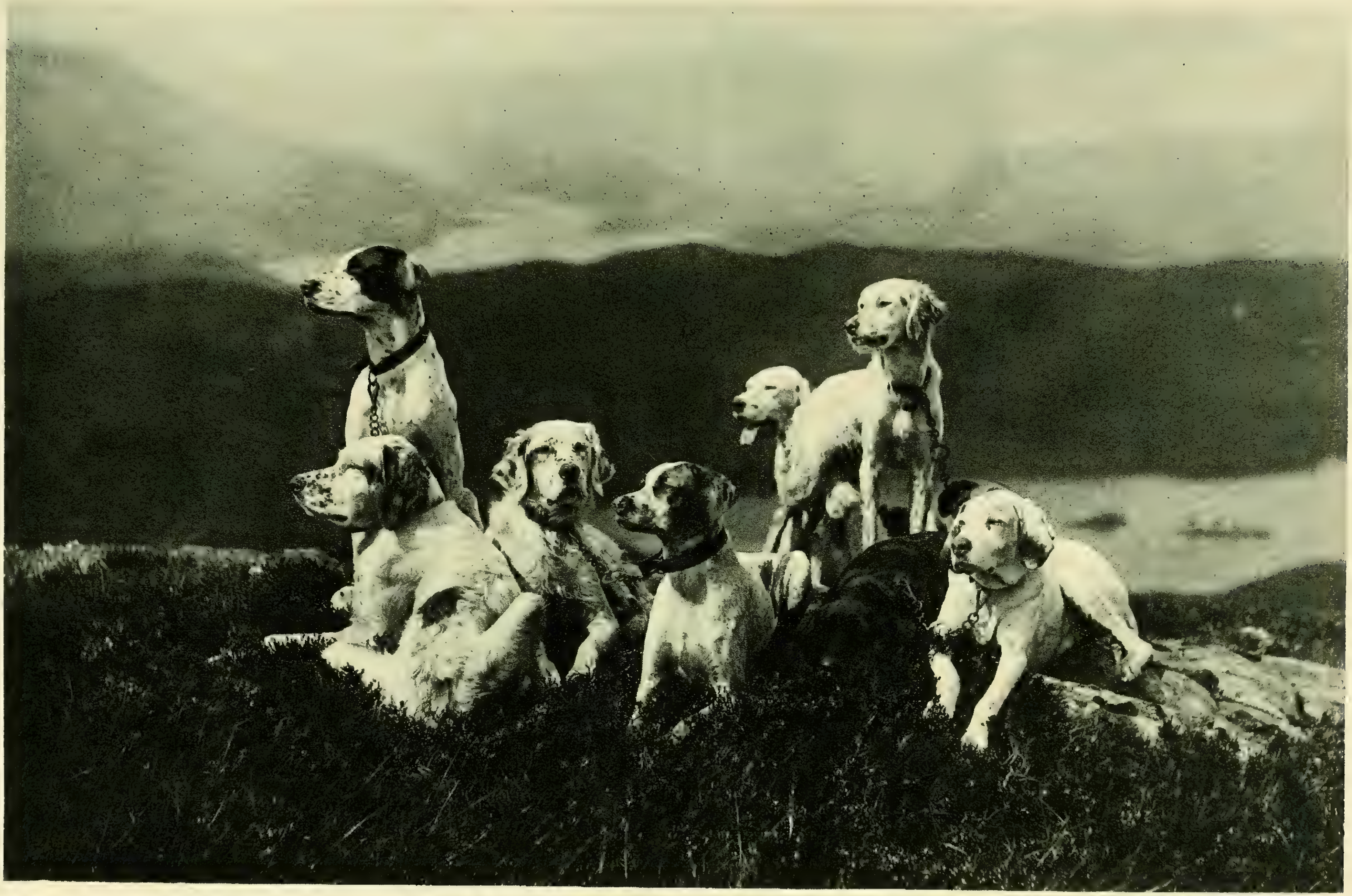


Photograph by W. Reid

AWAKING THE SLACKER

These magnificently alert sporting dogs of Aberfoyle, Perthshire, seem to be posing for the poet's

"In that pricked ear and eager eye
Astonishment may be detected."



Photograph by W. Reid

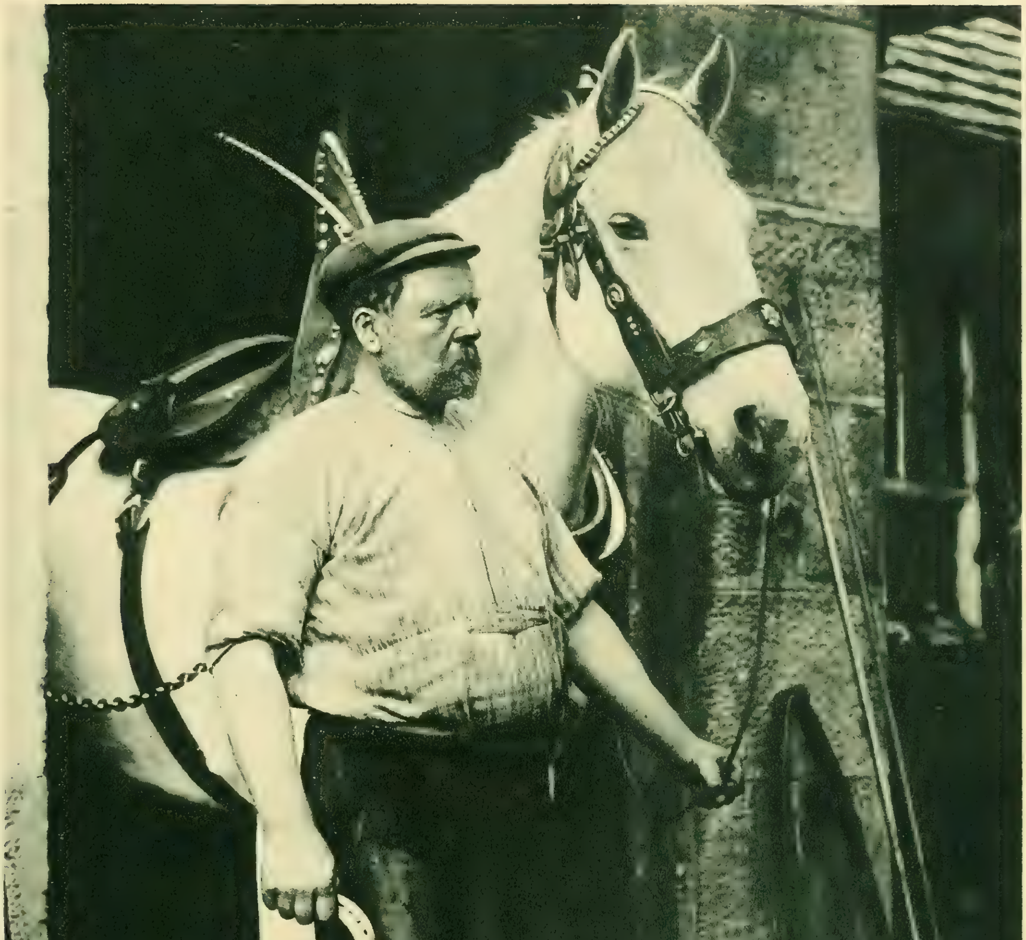
READY FOR THE CALL

A pack of Scottish deerhounds on the hills in the vicinity of Edinburgh.

Photograph by W. Reid

"GIVE ME BUT ONE HOUR OF SCOTLAND,
LET ME SEE IT ERE I DIE"

After the contemplation of such a scene of peaceful beauty the native of the Highlands recalls with amused superiority the acrid Dr. Johnson's declaration that "the noblest prospect which a Scotchman ever sees is the high road that leads him to England."

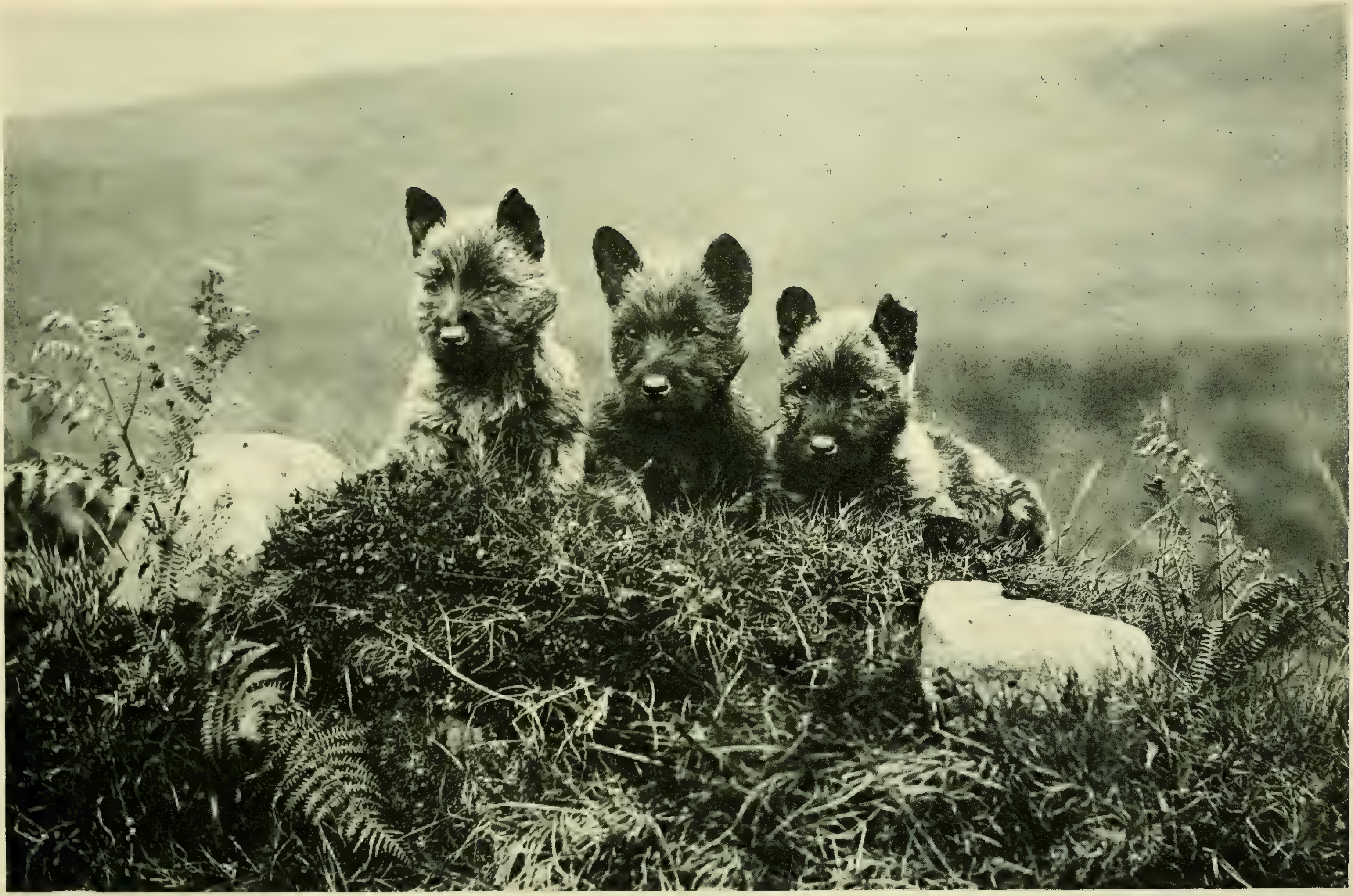


Photograph by W. Reid

STRONG, STALWART, UPSTANDING

Such Scottish types as this village blacksmith inspired Burns to philosophize:

"Princes and lords are but the breath of kings;
An honest man's the noblest work of God."



Photograph by W. Reid

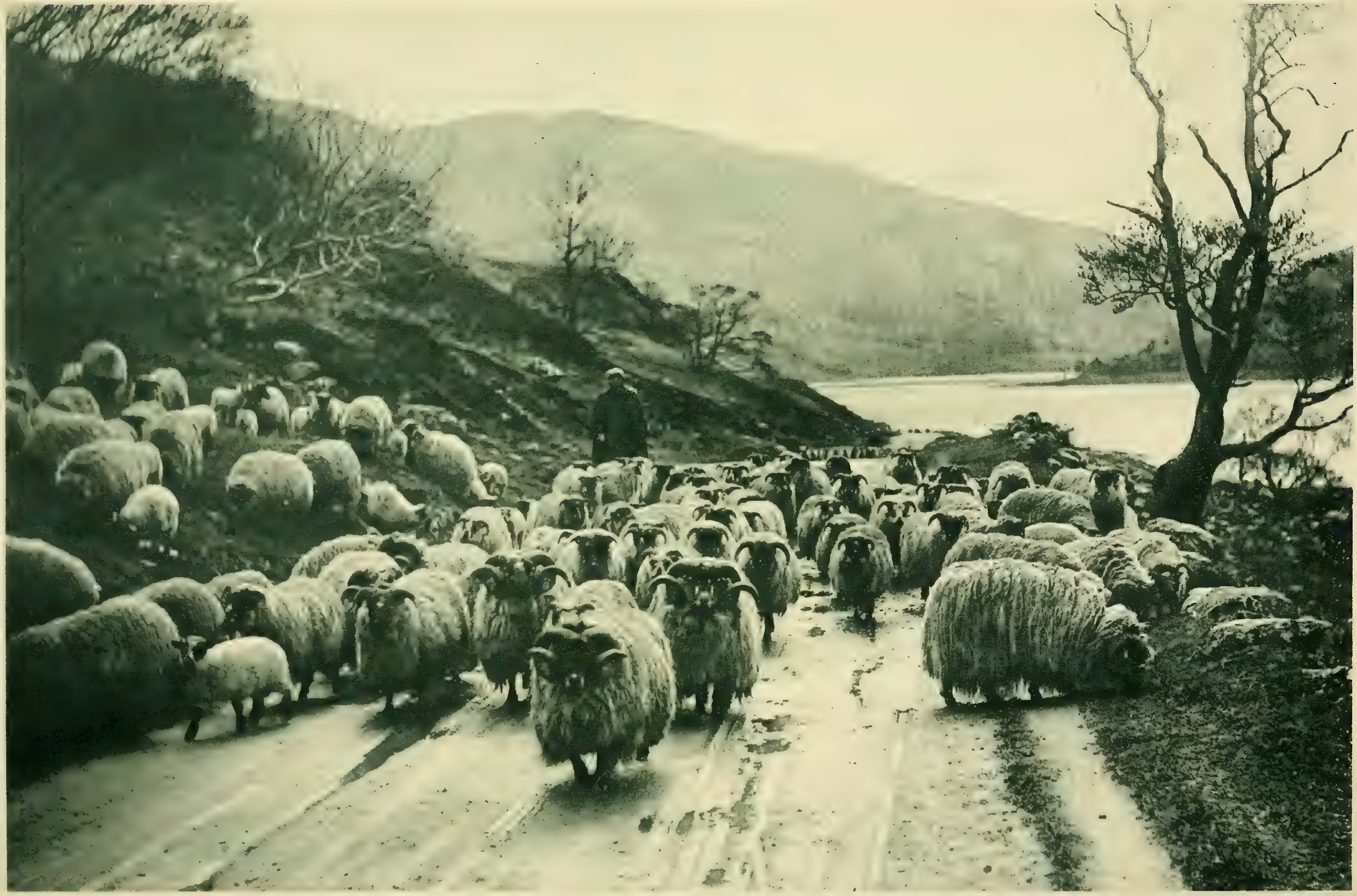
OVER THE TOP!

Three points of interrogation; Scotch terrier puppies ready to explore anyman's land.

Photograph by W. Reid

THE CAMPBELLS ARE COMING

The Scotch collie is the world's traditional sheep dog. His intelligence equals his beauty. Entrusted by his shepherd master with the guardianship of a flock, he soon comes to know the individual sheep, and in a crowded market place skilfully separates his own animals from other droves, and adroitly herds them. Countless are the stories of heroism and devotion told of the collie, and those who know this breed of dog best are his staunchest friends.



Photograph by W. Reid

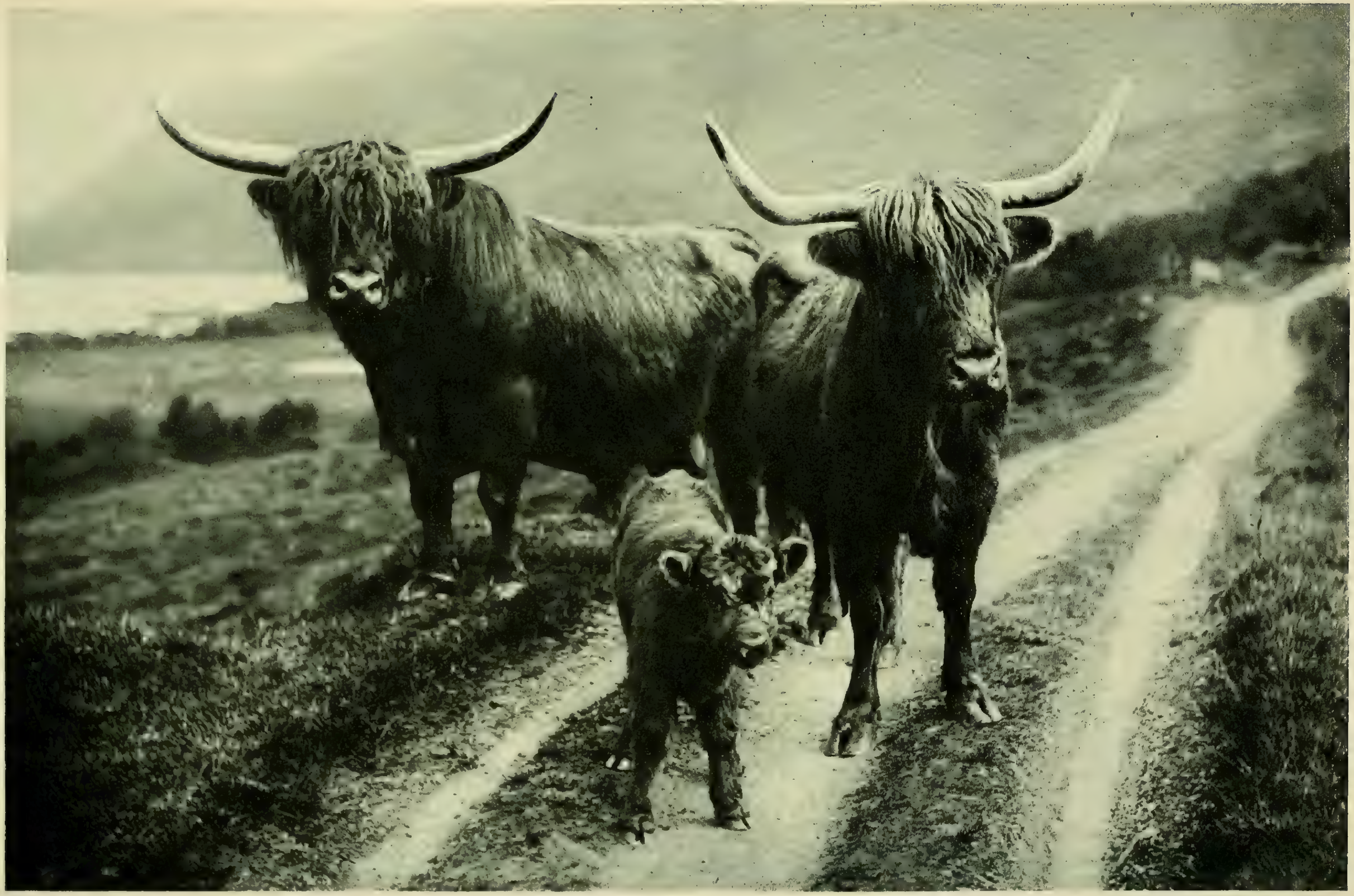
PLAIDS AND TARTANS TOMORROW

The black-face sheep of Scotland is hardier than the more famous cheviot, which derives its name from the Cheviot hills, the boundary line between England and Scotland. The black-face thrives on wild, exposed grazing land. Its large, low spiral horns and hairy fleece, which often reaches to the ground, are distinguishing characteristics.

Photograph by W. Reid

OBSTRUCTING TRAFFIC

"Land of brown heath and shaggy wood,
Land of the mountain and the flood,
Land of my sires! what mortal hand
Can e'er untie the filial band
That knits me to thy rugged strand!"



Photograph by W. Reid

A HIELAND ROYAL FAMILY

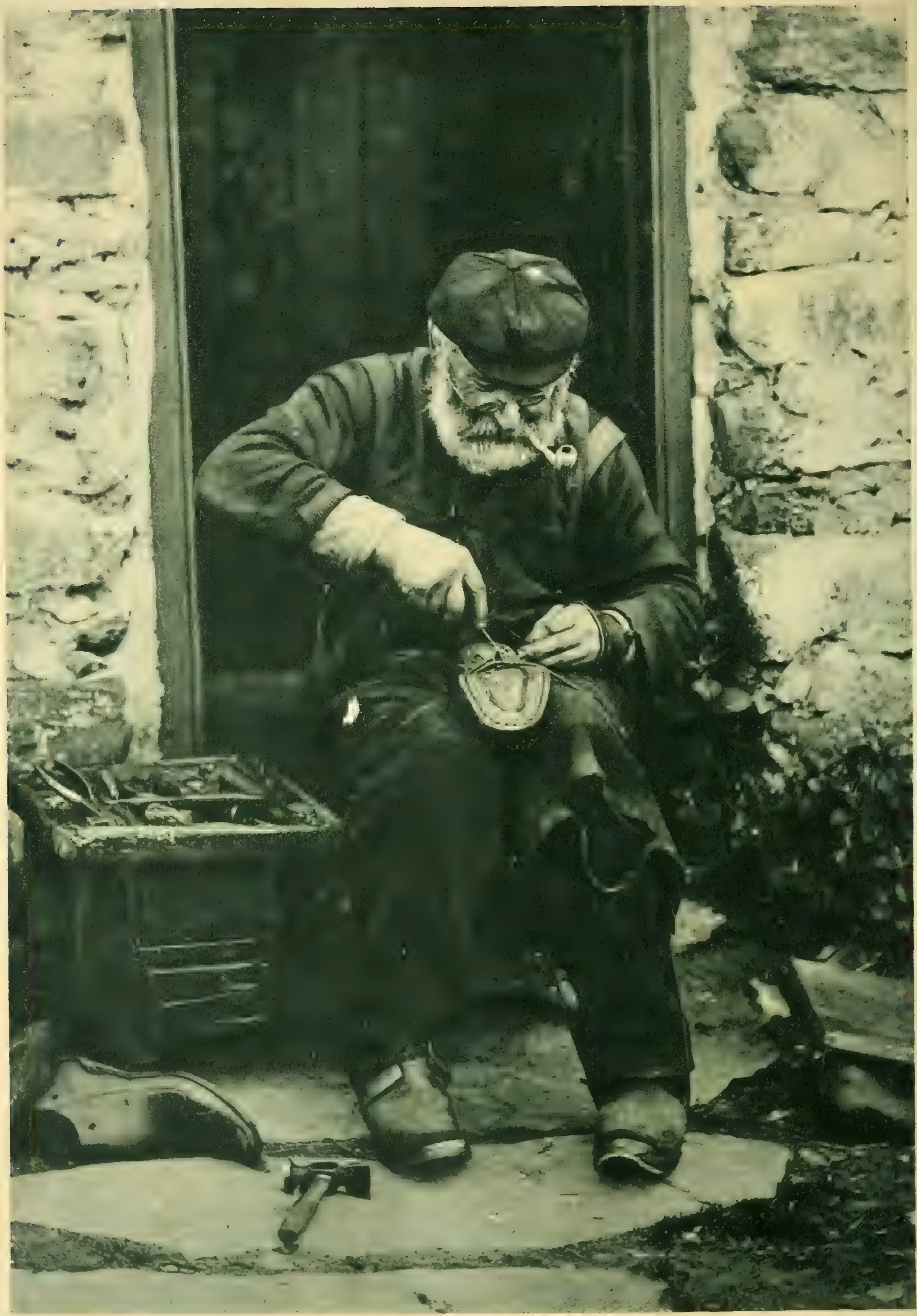
Of these cattle of Scotland it may be said as truly as of Cornwall's "Blood Horse":

"Strong, black, and of a noble breed,
Full of fire and full of bone,
With all his line of fathers known."

Photograph by W. Reid

'MID MOUNTAIN, LAKE, AND MOORLAND WILD

The summits of her "bens" masked in mists and their sides hung with waterfalls of silver sheen; her tranquil "lochs" glowing with turquoise light; her braes brilliant with magic mantles of purple heather and golden gorse, Scotland yields not even to Switzerland in the beauty and variety of its landscape.



Photograph by W. Reid

"I AM, INDEED, SIR, A SURGEON TO OLD SHOES"

" Long may the hardy sons of rustic toil
Be blest with health, and peace, and sweet content."

FROM THE TRENCHES TO VERSAILLES

By Carolyn Corey

YESTERDAY afternoon I took thirty-two soldiers to Versailles. I make this trip three times a week. On the other days I am guide in Paris for our men from the front. It is such fun that I object strenuously to any reference to this as my "war work."

I meet the men at "Blighty." This word, really Indian, means a "corner of home." In this particular instance it is a club where all English-speaking fighters are made welcome. An adored piano works overtime and a phonograph rests only during the change of records. Best of all, enormous plates of thinly sliced bread and butter and huge cups of strong hot tea are served in a great big room, where, as one kid put it, "every table has a cloth."

French soldiers get home leaves every four months. But I've had boys with me who were out of line for the first time in a year. They were the lucky ones; for many that I meet tell me they are free for ten days after sixteen, seventeen, and even nineteen months. If their first excursion happens to take place on the day of arrival, they are more frightened of me than of all the shells and "shrap" they've ever faced.

Not the least of my task is to put them at their ease. I succeed best when I talk their "lingo." I've learned a lot of it from their predecessors and am learning more every day. If a chap says to me: "Gee, it's good to hear your slangwidge," I know he's my friend. And when another insists that I'm "a regular guy," then the ice is broken for all of us.

THE SOLDIER ON LEAVE IS GLORIOUSLY EXTRAVAGANT

Lucky days we find taxis quickly. The distance to the station is not great, but we never walk, for the soldiers "like to let the chauffeur do the work." And be it known that no drunken sailor and no newly-made millionaire was ever so gloriously extravagant as our returned friend in khaki.

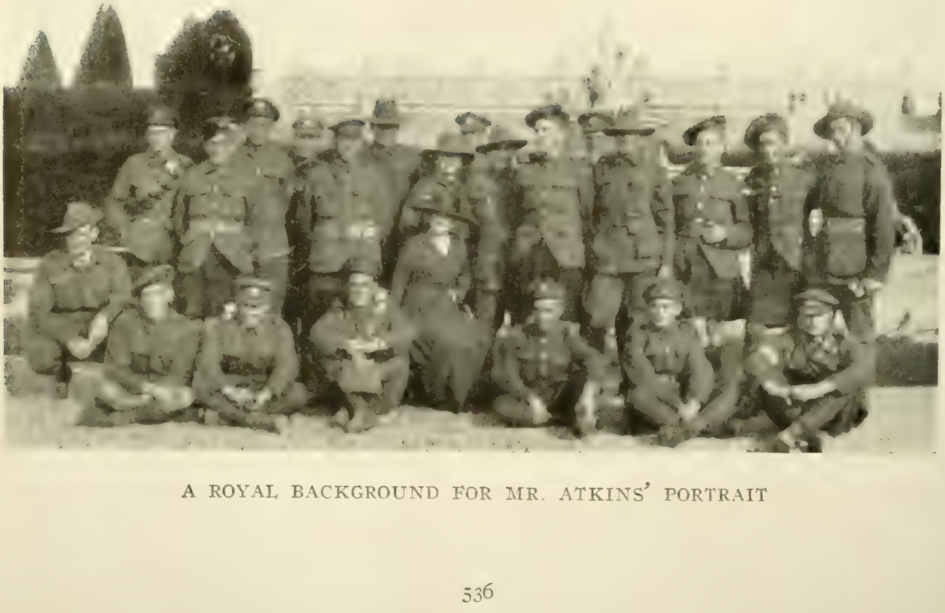
The street gamins of Paris discovered this early and flock about us in droves, demanding "One penny, please," in very good English. And I'm sure the one who throws the big copper coins is at least as happy as the one who picks them up. When the first taxi comes along I pile five happy youngsters into it—four inside and one with the driver. I give the address and they are off. The hailing of the taxis and the filling of them stops all traffic. Men, women, and children stop dead in their tracks and sometimes their remarks are worth hearing.

Occasionally we are delayed because two pals refuse to be separated. If there is a seat in one taxi and another in a second, I call attention to that fact. I tell them that the ride is less than ten minutes long. But invariably another car must be found. After all, why should a fellow leave his mate?

The ticket-seller at the station knows me now and actually smiles. He told me the other day that some time he would like to go with me, too, for though born in Paris he has never been to Versailles. He counts out thirty-two second-class military tickets. He stamps each one with a great flourish and hands them to me with a gallant bow. I used to get quite upset at first, but after twice forgetting to purchase a ticket for myself, and having again to stand in line to get it, I soon learned to remain calm.

I buy second-class tickets because I must. There are few first-class carriages and my thirty-two would more than fill them up. But, in spite of explanations, all of the thirty-two pile into the first. And when the conductor comes around, they pay the additional fee with such an expression of "Put me out if you dare" that nothing ever happens. So for all of

THE TRENCHES ARE FORGOTTEN IN THE QUIET BEAUTY OF VERSAILLES



A ROYAL BACKGROUND FOR MR. ATKINS' PORTRAIT

© H. C. White Company

THE ROYAL PALACE FROM THE PLACE D'ARMES: VERSAILLES, FRANCE

Le Grand Monarque, as French historians have dubbed Louis XIV, employed 36,000 men and 6,000 horses for years in leveling the ground for the gardens and park and in building the Aqueduc de Maintenon, which supplies the Palace of Versailles and its famous fountains with water from the Eure.

thirty-five minutes they revel in the nearly forgotten luxury of red plush seats.

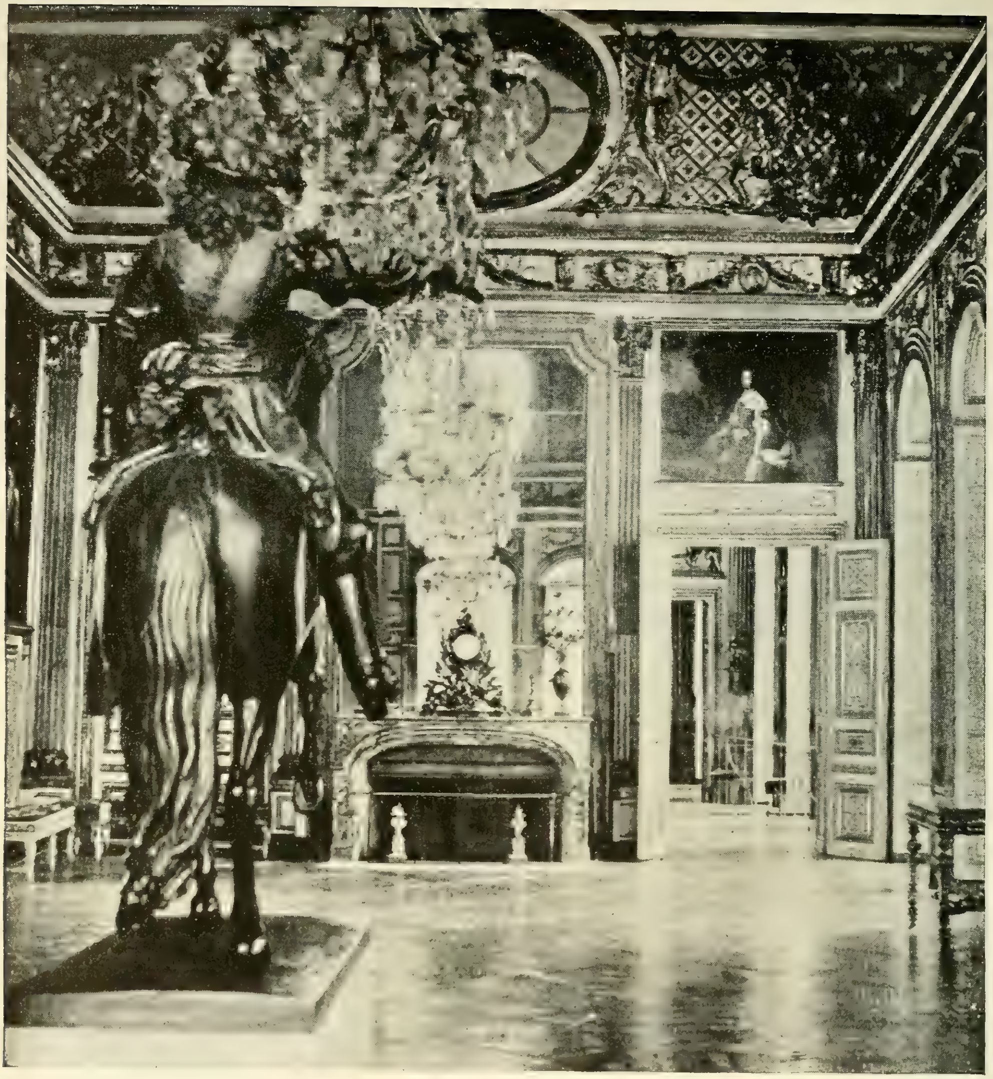
THE PERSONNEL OF THE PARTY

An absurd little whistle goes "toot, toot" and the train pulls out. I close my eyes for a minute; for the placing of the men in the taxis; the wrangling with the drivers who don't want to take us because it is the lunch hour, and who demand, "Is it that a human being must not eat at this hour?" the buying of the tickets to the accompaniment of the remarks of the people around me; the blowing of cheap smoke into my face during the proceeding, and my fear that one of my boys will make good his threat and "knock their dern nuts off;" the dealing out of the tickets with the admonition of "Don't lose this, for you'll have to give it up at the gate;" the seeing that every chap has a seat—well, as I said above, I lean back and close my eyes for a minute.

Then I sit up and look about me to discover how many Canadians, how many New Zealanders, and how many Australians are with me today. I usually have a goodly sprinkling of "Scotties," too. But they tell me they are not Scotch at all—just plain, ordinary "Canucks," or, in loving soldier slang, "Nadies."

When every window has been pried open, every cap or large felt hat has been placed in the racks, on the floor, or far back on close-cropped heads, and especially when cigarettes and pipes are burning merrily, I begin to feel we are really started.

Invariably at this time one will come to me and say longingly: "Say, lady, don't you know any new rag time?" And when I must reluctantly admit that I don't, because "I have been over here as long as you," he murmurs something about "You, too, doing your bit," and begins to "tear off an old one." So, to the accompaniment of the turning wheels the lusty young voices roar such old stand-bys as "Iv'e got a sneaky feelin' round my heart that I want to settle



Photograph by E. Lamy

SALLE DE L'OEIL-DE-BŒUF (HALL OF THE BULL'S EYE) : PALACE OF VERSAILLES

So called on account of the oval window where the courtiers of Louis XIV used to await the waking of the monarch in the adjoining apartments. Once the scene of many intrigues, this salon is "*some* dugout" to the 20th century soldier on leave from the front-line trenches.

down." And there is always heartfelt feeling in "Gee, how I'd like to be, Gawd, how I want to be, down on the farm."

THE "BLIGHTY" SONG

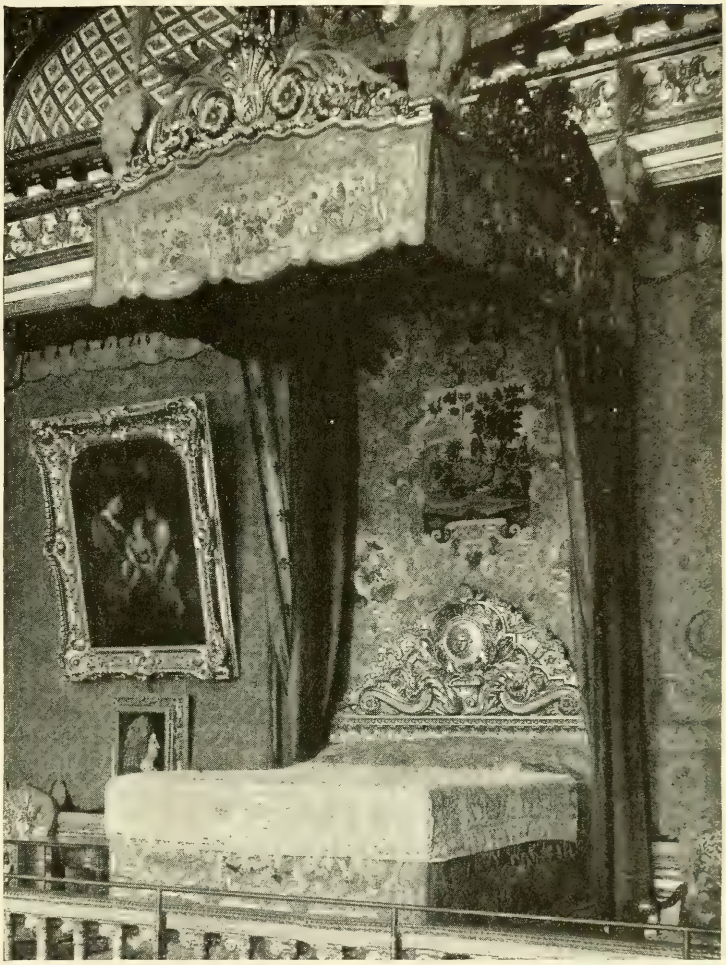
We stop for a minute or two at a station and I hear many comments. Here are a few: "I gave her a smile, and as soon as she saw my gold tooth she said, 'Oh, ze millionaire.' " And "If this damn war keeps me in the trenches another year, I'm going to desert, I am." At which a wild chorus rises up of "Yes, you ain't." Then, in a very soft, drawling English voice, one boy says: "Australia is as much a farming country as France; and after what I've seen here, I'll never vote for conscription at home. Suppose my sisters had to plow!"

Again the train pulls out, and a voice, almost girlish in freshness, sings: "The roses round the door make me love mother more." After he has finished some one starts the "Blighty" song. It goes like this: "Please take me across the sea, where the old Allymongs can't get me; 'Cause, my, my, my! I don't wanna die, but I wanna go ho-ome." It is repeated over and over and over, and long afterwards, when I am again alone, it rings in my head and my heart.

Arrived at Versailles, I scurry back and forth on the platform to see that no one is left behind. For once a lad fell asleep and had to be prodded out at the last moment. He admitted frankly that he'd had two bottles of whisky and a hard night. He asked me stupidly, "What's 'Vursales' anyway?" Later in the afternoon he promised to take a Turkish bath, or, as he told it, "a bunch of 'em."

In spite of my drastic warning, there is often a scared-looking soldier who tells me shamefacedly that he has lost his ticket. I, in turn, tell this to the man at the gate. He smiles indulgently and assures me that "all American soldiers can pass through," which doesn't make a hit at all, especially with the Australians, who on account of their soft hats are often taken for "Sammies." More than once have I heard a "Go to the devil" in response to "Bon jour, cher Americain." When the strap which holds the hat to the head is worn before the ears, the wearer is from far-off Kangaroo Land; but when it's worn behind the ears, he's a Yank. And you mustn't mix 'em up, either.

For the short walk to the castle we do not go two or four abreast, but all together; for I find that a man on leave tries to forget everything military. What he wants to do least of all is to walk. He hates it almost as much as he hates the rain, and he hates the rain like poison. At the front he must get wet and muddy. In town he loves to be dry and clean. In spite of his loathing for foot exercise, I know, however, that the average soldier is willing to walk miles on the trail of some interesting scrap of history or even a charming bit of scenery.



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BED-CHAMBER OF LOUIS XIV AT VERSAILLES, FRANCE

"It's a funny, flat bed, and one chap said with a grin, 'If Looey had one drink he couldn't get onto it, and if he took two he couldn't stay on.'"

In the center of the huge courtyard I gather them all about me and give a short, a very short, description of the palace. Every one listens carefully and the intelligent ones ask questions. When I call their attention to the original cobblestones some one remarks, "I'd like to meet the gink that invented them. Bet he never had to wear ten pounds of iron in his boots." When I say that the palace cost four million pounds I hear, "Wrap it up." And when I say slowly and distinctly that there are rooms for ten thousand guests, I hear a sigh and "I'd like to stay here for duration."

We go into the Salle de Congrès and I tell the story of how it was built and ab-so-lute-ly finished in three months, and I hear a grunt of disbelief and a bass voice saying, "It takes a Frenchy that long to cook a steak." When I announce that the guide is a veteran of the Franco-Prussian War, as they can see by his military medal and his empty sleeve, one generous fellow yells, "Every fellow hand him a franc." But I object vigorously and tell them that that would never do; it would be establishing another precedent, and goodness knows enough have already been established here for the man in khaki; at which the wit of the crowd pipes, "At least you'll let me kiss him."

Now, thanks to the kindness of the French Government, the château is opened to my thirty-two. We enter into all the magnificence that was Louis's through the great wide doors, not, however, wide enough to accommodate the eager troop of veritable children, who crowd and push and joke and swear.

MR. ATKINS STUDIES ART

We halt a second before the big picture of Louis XIV, because several want to take "a peek at the 'kink' who was responsible." And as all of Versailles is essentially Louis, after awhile it gets to be a game, this hunting for and finding of Louis in bronze, marble, and oil in all sorts of poses and costumes; so much so that one day when one of my guests took some snap-shots of the party, another said, "We mustn't tell Looey; he'd hate so to be out of it."

We ascend the gorgeous marble staircase, the favorite one of Marie Antoinette, and I try not to smile when a miner from the Yukon refers to her as "Marie Antonio." Lord love him, he's going to see everything and know who's who and why. At least that's what he tells me. An Australian mutters that his favorite staircase is the one that leads off the boat at Sydney, and a second, and a third, and a fourth agree with enthusiasm.

We wander slowly and awesomely through the grandeur of the gallery of battle pictures. We examine attentively the picture depicting one of the first victories of France, in the year 496. I never forget to point out the trench helmet, so like the one in use now, and employed, as another picture proves, early in the thirteenth century. I always remember to halt the entire company before the battle of Lens, which took place in 1648, on the 20th of August. The date and month are of importance, because it was on almost that very same date and month of this year that Canada started to get back Lens.

STEALING SHY GLANCES AT THEMSELVES IN THE BALLROOM MIRRORS

And when I ask mischievously, "Boys, are we or are we not going to do it?" well, I'll venture to say that the great room in which we stand never echoed to deeper or sincerer emotion than during the second when positive voices shout, "We are!"

We are taken through many of the private rooms of the court. We see Louis's bedroom. It's a funny, flat bed, and one fellow says that "if Looey had one drink he couldn't get onto it, and that if he took two he couldn't stay on."

I point out the little balcony leading from this room, where Marie Antoinette addressed the Parisian mob, and I tell them that in answer to their cries for bread she asked them why they didn't eat cake. This always brings a laugh, just as does the story that in the beginning of this war the Kaiser said Versailles was to be the summer home of the Crown Prince. Here I refrain from repeating the remarks.

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THE GALLERY OF BATTLES, ROYAL PALACE: VERSAILLES, FRANCE

"We wander slowly and awesomely through the grandeur of the gallery of battle pictures. I never forget to point out the trench helmet, so like the one in use now, and employed, as one picture proves, early in the thirteenth century."

We see the ballroom, of a size and splendor never equaled in the history of the world. We walk the entire length and my thirty-two steal shy or defiantly bold glances at themselves in its mirrored walls. I hear a voice say, "Some dug-out;" and again, "Gee, I'd like to stay here for duration."

I turn around and for the first time get a good look at the one the others have dubbed the "Infant." I call him to me on the pretense of showing him the view from the windows. I talk rapidly, so that he may not be too ill at ease. After a few minutes he tells me he is from Providence, R. I.; that he is just seventeen and has been on active service for more than a year. When I ask how he got in so young, he smilingly admits that he ran away from home, lied as to his age, and that he's mighty glad he came, except for the discipline. "That's pretty hard on a man, you know."

I look at him again and I see that he is straight, and strong, and very intelligent. I see also that he has a baby mouth and an almost loving way of staring at me. So I decide to take him under my wing—and I do so. I scold him in all earnestness when he insists upon sliding

© Griffith & Griffith

LAKE AND FARM OF MARIE ANTOINETTE: PALACE OF PETIT TRIANON, VERSAILLES, FRANCE

In the nine or ten rustic cottages which dot the shores of this beautiful little artificial body of water the care-free Marie Antoinette and her irresponsible retinue played at leading "the simple life," which came into fashion with the publication of Rousseau's "The Village Soothsayer."

on the highly polished ballroom floor, but I forgive him when he winks at me in the wickedest possible manner.

WHERE BEAUTY BRINGS A TEAR

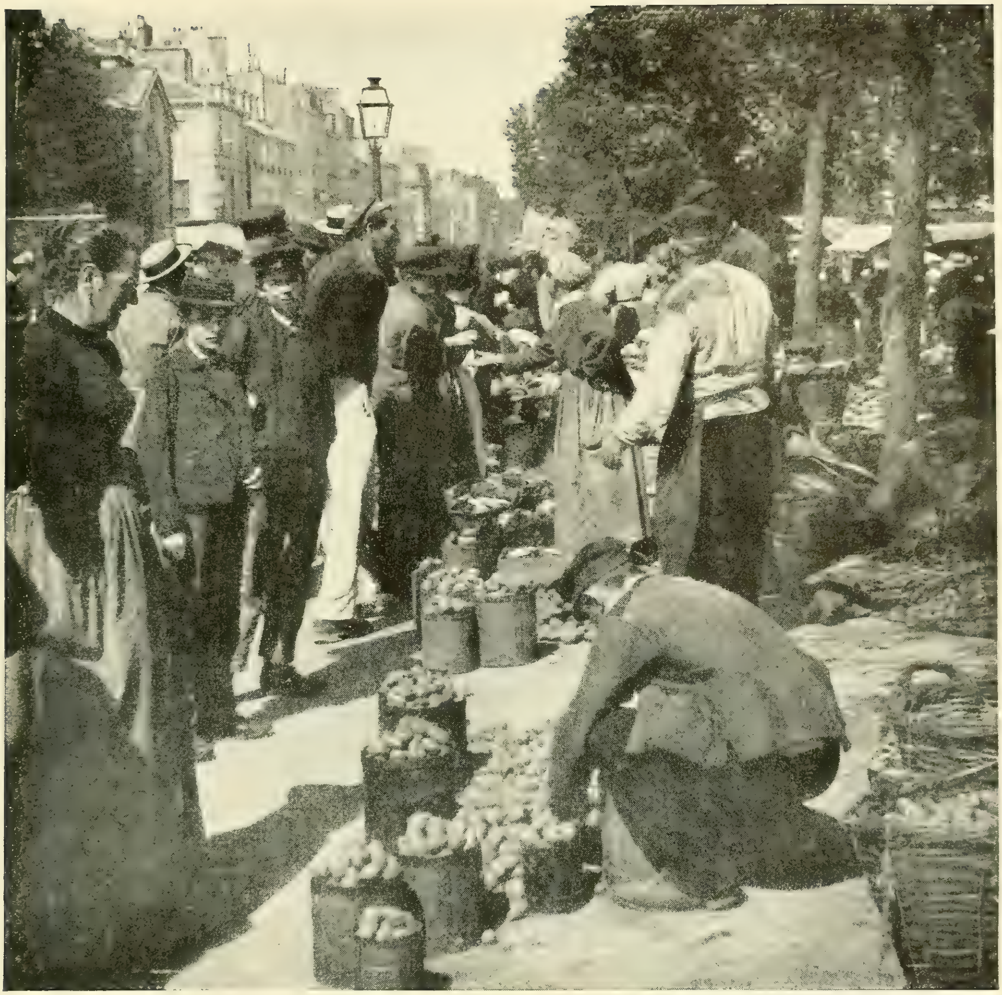
After we've seen what seems like miles of beautiful old rooms, and furniture, and rugs, and tapestries, we tip our guide in true soldier style. Then we sally forth into the fresh, sweet-swelling openness of the gardens. We all heave a huge sigh to leave behind the close, hot air of indoors. We breathe deeply for very joy of living and being away from "Fritzie," in whom we all admit there's "a mighty good kick yet."

We saunter slowly to the top of the superb marble stairs, where we just naturally stop. Somehow I can never stand on this particular spot with my soldier friends without feeling a great lump in my throat. Sometimes a boy will almost whisper, "Beautiful," or "Bonza," if he is an Australian, which means everything that is good; but mostly they say nothing. Sometimes I see a kid surreptitiously take off his cap, and once I saw a tear; it was in the eye of a man who had been an artist at home; now he is assistant camp cook.

Now we descend the great white steps, thirty-two pairs of army boots clang-clanging and one pair of high heels always in the lead. Once more I gather them all about me, the "Infant" closest of all, and we feast our eyes upon the beauties of the fountain of Latona. I tell them what it means. Every fairy tale begins in the same old way; so here goes:

"Once upon a time, when the goddess whom you see at the top of the fountain was wandering in a little village, she was very thirsty. She came upon a lot of women and children and begged them for a drink. But they refused and laughed at her. So she called upon Jove, and he, with one wave of his hand turned them all into turtles and frogs, just as you see them here."

And all around me I hear, "What a charming tale," and "Nonsense," and "It 'ud take a lot o' this to kill me."



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MARKET-PLACE IN PEACE TIMES: VERSAILLES, FRANCE

It was the lavish hand of Louis XIV which made Versailles one of the famous show-places of the world. It is of especial interest to Americans now fighting in France. When granted occasional leave from the trenches they naturally go to Paris and flock to the great chateau, which is said to have cost $100,000,000 apart from the forced labor exacted under the old feudal system. Versailles before the outbreak of the war had a population of 60,000.

AT THE GROTTO OF APOLLO

From here I steer them in the general direction of the Grotto of Apollo. I announce our destination when a big, breezy farmer from New Zealand ventures: "Oh, yes, that's the place where Louis is getting washed by those women." And I pretend not to hear him nor the "S-h-h-h-h-h" from every side. As we approach the grotto, the guide, another old soldier, still wearing his long sword, comes up to us with a look of "come into my parlor, said the spider to the fly."

He, too, knows me now and is my friend. So he unlocks the high bronze gates while humming a naughty little song, and we step from the brilliant sunshine of the open garden into a bit of exquisite old forest, delightfully cool and absolutely still. I hear a sighing, "Is this really true?" and a cursing, "Oh, how my feet hurt!" We come to the grotto, and immediately my thirty-two weary wanderers fall upon the grass in attitudes of—I might almost say abandon. I reel off the story of the pretty rocks, which,

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"LAST MOMENTS OF NAPOLEON": PALACE OF VERSAILLES, FRANCE

Something akin to awe masters the Tommie as he stands before this block of insensate marble, which depicts with such solemnity the final hour of that restless genius at whose word princes and principalities sprung into being; dying, his only realm of rule the crumpled map upon which he traced the boundaries of his former conquests.

"though you'd scarcely believe it, are not natural at all, but artificial."

I talk on, and on, and try to make my little lecture entertaining, for by this time I know that everybody present needs a rest. So we take it here, under the old, old trees, which almost meet over the ever-present statue of Louis, this time in the company of his ministering maidens. Even the custodian obligingly sits down and waits patiently until I again give the sign to "fall in."

He knows that "permissions" to Paris are scarce, for I've told him about that. He knows that the biggest and best fighting man is only a tired little kiddie at heart, and he knows above everything else that some of today's number are seeing their last bit of beauty.

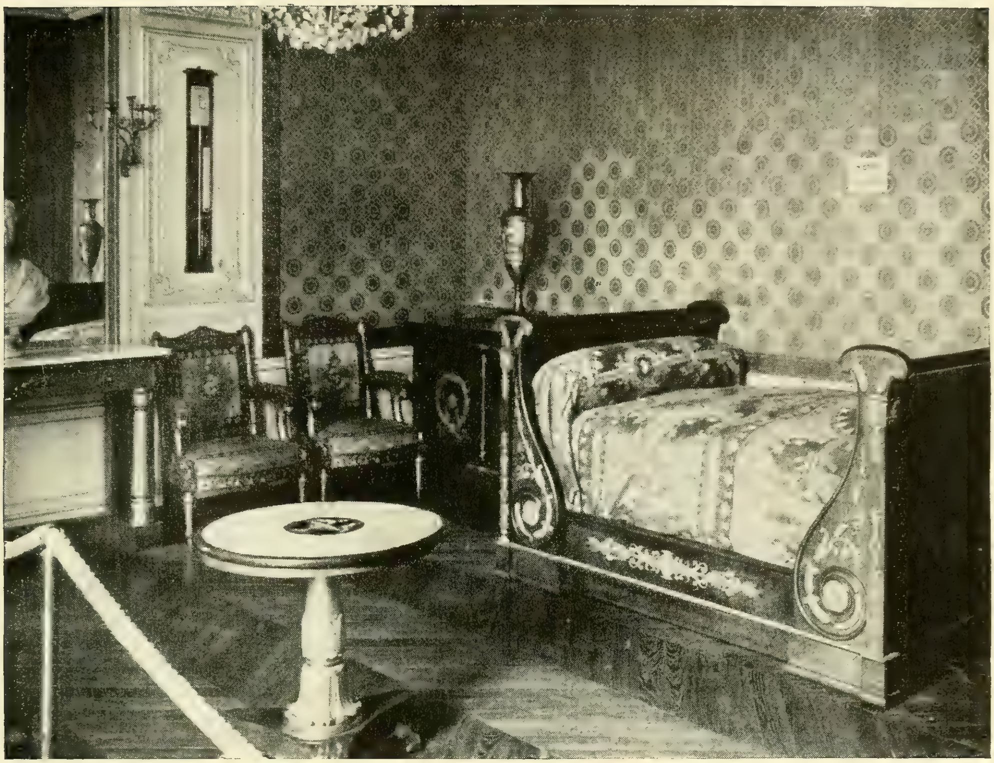
Pretty soon, after a hasty glance at my watch, I say: "On our weary way. On with the mad pursuit of Art and Information." Then, with a great stretching of arms and legs and a few ill-disguised yawns, we pass again through the high bronze gate, all but the smiling guide poorer by a few pennies.

We wander through long avenues of stately plane-trees whose bark has disappeared, leaving the bare and beautiful yellow of the trunk to remind us that autumn is again with us. We pass and admire the fountains of the Four Seasons, the stunning one of Hercules, and the pretty one called "The Sheaf of Wheat."

We are on our way to the handsomest one of all, that of Apollo in his chariot drawn by high-stepping, splashing horses. Now we come to a little lane which I love. It is narrow and shadowy, and so still that the rustling of the ivy leaves which cover all the trees seems almost loud.

"THE TINIEST LEAF FOR THE ONE WAITING AT HOME"

I stop in the center of the roadway, and when the last straggler has caught up I again make a little speech. I say:



BEDROOM OF NAPOLEON: VERSAILLES, FRANCE

The over-seas soldiers on leave and off for a "look-see" at Versailles have no compunction about referring to Louis XIV as "the kink who was responsible," but in the simple apartments of the "Little Corporal" their bearing is always one of respectful admiration.

"Boys, the French have a pretty saying that 'the smaller the ivy leaf, the dearer the love.' So I want each one of you to find the tiniest leaf possible and send it to the one that's waiting at home." Before I have finished I find myself alone. Every homesick soldier is keen in his search, sure that his leaf is going to be the smallest. One after another comes to me and asks, "How about this one?" or "Won't you please look at mine?" And the lump in my throat gets bigger and bigger as I watch these hardened warriors so intent upon his foolish, though touching, little game; for I know that every lonely fellow is thinking, not that in one or two or more days he's going back to what in stoic derision he terms "home," but that some one, somewhere, is thinking about him and worrying about him and loving him too.

The joker of the party comes to me with a perfectly enormous leaf, which he informs me he has plucked for his mother-in-law; and when I ask him if he has a mother-in-law, he answers: "No, but I might have one some day." Another young devil shows me a leaf even larger, and when I naturally ask who is to get that, he says, "It's for the Kaiser." And a third presents a leaf so small that I smile at its absurdity in a hand so big and hard. His mouth quivers ever so slightly as he tells me it is for his mother, who is the only one on earth who cares for him.

By and by thirty-two infinitesimal ivy leaves are carefully placed in thirty-two safe places. Did I say thirty-two? Well, I should have said thirty-four, for I catch one chap hoarding away three. I laughingly admonish him to be careful not to send them all to the same town, for "girls will tell, you know." By way of reply he pulls a post-card photograph out of his pocket and says, "Here's why I must have three," and I see the picture of a nice-looking young woman and two babies.

A TOUCH OF SENTIMENT AMONG SOLDIERS

A red-haired, peppery-looking little man is horribly embarrassed because in putting his leaf into his note-book something has fallen out. It is, he tells me, the last thing his wife gave him—a thing which had been a pink rose, a paper one, if you please. She had made it herself and thrown it into the train window when he waved goodby, more than two and a half years ago.

Somehow this little touch of sentiment seems to have drawn us all closer, and we resume our tour the better for our short mental visit home. The "Infant" seems pretty silent until he spies a stand where weak lemonade, warm beer, and small cakes are to be bought. He returns with hands full of the latter, and when I reprimand him, because he knows we are all to have refreshments later, he tells me that never could he wait that long.

So we eat the hard ginger cookies as we watch some small boys sailing tiny boats in a fountain. The "Infant" tells me, in a burst of confidence, that he's got a boat "just like that" at home. His mother is saving it, though he doesn't know why.

We stroll along leisurely, to stop a moment before a huge likeness of Louis in marble, disguised as a Roman emperor. The "Infant," playing with the naked toes, begins: "This little pig went to market, this little pig stayed at home." As I give his arm a little squeeze I ask him if he ever gets homesick. He admits it freely. And when I want to know if he has ever cried, I see him hesitate for just a second; then he bursts out in a very fury of rage: "Yes, I cried when a guy killed the Fritzie who was my meat."

A BATTLE ROYAL OVER THE MENU

After a hasty look at some of the things which the guide-book says one must see, thirty-two pretty tired young men sink into chairs under red and white striped umbrellas in front of a charming little restaurant. Two remained outside, so I send a runner to find out if they are neither hungry nor thirsty. He returns at once with the two; also with an explanation, interlarded with many swear words, that "of course, they are both; but they thought you were going in to see some blankety blank art."

Now comes a battle royal. It is indeed difficult to discover how many want ham, how many beef, and how many veal sandwiches. I know that no one wants cheese. Cheese is a horror second only to "posie," which is marmalade, and "Charlie Chaplin wedding cake," which is hardtack.

I ask one boy what he will have, and he answers unsmilingly, "Hot waffles;" a second says his will be "Strawberry shortcake," and a third wants "A barrel of beer and a quince." When the thing seems to be growing hopeless I tell every fellow who wants ham to raise his hand. One boy raises both, and when I demand why, he tells me, "Because I want two."

Next we take up the question of the drinks and by and by we get that settled. The little white plates, the pearl-handled knives, and the dainty, clean napkins are so enjoyed. Some one remarks that the latter would make good souvenirs. Of course, he's a "Canuck." He'll tell you himself that "the English fight for honor, the French for glory, and the Canadians for souvenirs." He goes farther and swears that the general understanding on the field is that when a Fritzie is found lying on his tummy it's a sign that he's been "picked," so no use bothering with him.

Some one is heard to say: "Voolyvoo, shoot the salt, cherry," and some one else remarks that he "likes the sample." I don't believe many things can disappear with greater rapidity than a thinly cut, delicious sandwich in the hands of a hungry soldier. Before the last bit is eaten the order for a second round has been given. The waiter's mad attempt to get the order right makes a New Zealander remark that "this will be in the communique tomorrow." Another, apropos of nothing, says that Paris is the only part of France worth fighting for, and that if it were left to him, he'd give the dern country to the Boches and apologize for the looks of it.

SENDING SOUVENIRS HOME

A dozen others take advantage of the wait to ask me if I could possibly send their books of post-cards home. I assure them that I will do so gladly. At which a middle-aged man, who has hardly spoken during the afternoon, wants to know if I ever send parcels for the men. I tell him I do it every day in the week. After a second's hesitation, he says: "But perhaps, lady, you wouldn't care about wrapping up this particular thing." I insist upon knowing what he means. He explains: "I'm a seafarin' man meself, lady. I bin purty near all over this here world. An' ever' place I bin I brought a souvenir from. Yesterday I got a corkin' good one. I visited the big crematory; I got there jest in time to see a dead one goin' in the heater. It wasn't long afore I saw the thing pulled out. I hops in and grabs a little bone. It was hot. Wouldn't you like to see it?"

After the second sandwich we have cakes all around—lots of them. Thirty-two fighters can eat quite as many cakes as thirty-two small boys, maybe more. When everybody's "got a light" we begin to feel really acquainted. No one seems in a hurry to move. Everything is so peaceful that I haven't the heart to announce that we're going to miss our train unless we start.

Anyway, there are other trains and the sunset on the artificial lake is very beautiful. The long expanse of grass, so prettily called the "Green Carpet," is restful to eyes accustomed to shell holes and the devastation of northern France. Unconsciously we become very still. I don't know how long we'd remain here contentedly dreaming were it not for the waiter's very obvious desire to clear the tables.

So I reluctantly call for the bill, which is immediately taken from me by a big, jolly, monkey boy. He glances at it, falls back in his chair and screams: "Quick, quick, give me my gas mask." He divides the total by fifty-two, for of course the "commanding officer" does not pay. When she attempts to do so, there is a perfect tumult of protestation, and a "Don't insult us like that, please," from all sides.

THE RETURN TO PARIS

When the waiter has been made deliriously happy over the size of his tip, we get up lazily and a little sadly. We saunter leisurely for a parting look at Apollo and his car and his big bronze horses. We look for the last time at the row-boats on the lake and at all the dreamy beauty around us, and in the stillness of the summer evening we follow the wide path back to the palace, now a marvel of old ivory in the soft light. It is so easy to imagine the vast terrace filled with ladies in wide skirts and gentlemen in white knickers. But we are brought back to stern reality by the whir of an aëroplane over our heads and some one almost moans, "You can't get away from it."

We again cross the old, cobble-stoned courtyard and come again to the tall bronze gates. The artist remains behind a moment to study their carving. We continue on to the right, and in a few minutes are back in the station. A busy, buzzing little sergeant counts up for me as the men come along. When I am positive that not one has fallen by the wayside, I again buy thirty-two tickets for soldiers and one for the one a nice boy calls "The Queen Bee." Again there is the scramble for seats in the train, and just as the whistle blows, I jump in myself, assured that no one is left behind.

BACK TO THE FRONT

In a short thirty minutes we are back in town, and once more I stand with my afternoon's companions about me. They shake my hand, and each in his particular way tells me that it has been a perfect day. They don't all express it that way, of course. One says, "Top hole;" another calls it "Bonza;" a third, "Sim-play rippin';" and a fourth, "Some trip." Here, without the slightest warning, the "Monkey Boy" proposes "three rousing cheers" for a much embarrassed little lady. They are given so lustily that small boys and old ladies and men of all ages hasten towards us to find out what it's all about.

A first taxi appears. I pack five into it, give the various addresses to the chauffeur, and to shouts of "See you tomorrow in 'Blighty,' sister," I wave them off. A second car pulls up at the curb and five more leave me, pleasantly tired and seem-

Photograph from Harriet Chalmers Adams

FRENCH SOLDIERS MARCHING ON THE RUE ROYALE

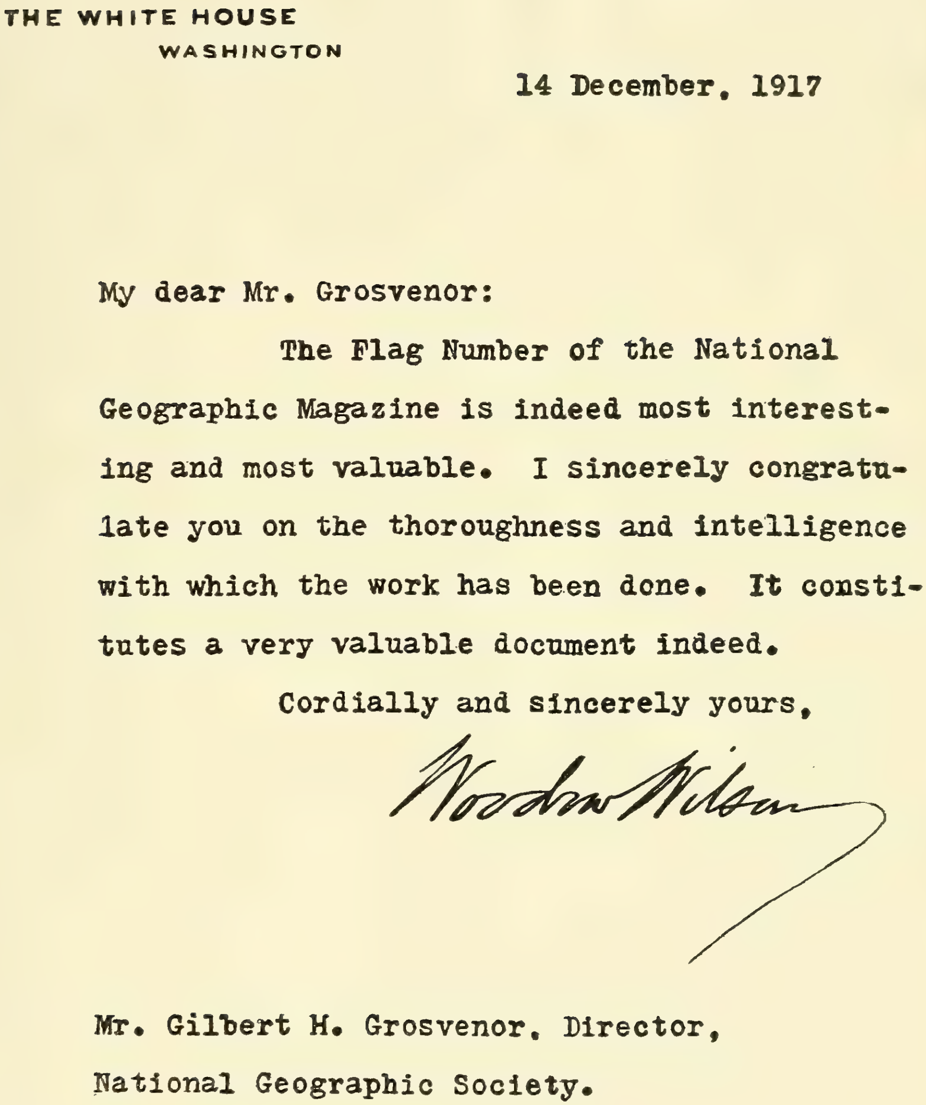
ingly happy, and oh, so grateful. Each new taxi takes its load, until presently only the "Monkey Boy," the "Infant," and myself are left. The baby soldier doesn't seem to mind that the big fellow's arm is around his shoulder—in fact, he seems to like it. I direct our driver to take me home first, because they want a longer ride, they tell me.

As we speed along, in spite of my best efforts the conversation lags; then dies utterly. A deep gloom seems to have settled upon my two companions, and suddenly I begin to understand; for I know the look which says, "I am leaving all this behind." I sense the heartache behind the smiling face. I feel the utter cruelty of it all, so I don't talk about it. When it comes time for us to part I only ask, "And so you two are going out tonight?" The brave little "Infant" grins painfully as he tells me: "Yes, for us it's over the top and the best o' luck." So I say, "God bless you."

It's all one can say, you know.

THE MID-WINTER NUMBER

The unprecedented achievement of successfully completing 23,000,000 pages of four-color, as represented in the 700,000 copies of the Flag or October Number of the NATIONAL GEOGRAPHIC MAGAZINE*—work which could only be done in the hours of daylight, because of the necessity for perfect registration—together with delays in delivery, owing to the congestion of transportation, seriously retarded the early completion of that truly remarkable issue. It therefore has been deemed advisable to incorporate the contents of the November and December* GEOGRAPHIC *in this one issue, as the mid-winter number.*



THE WHITE HOUSE
WASHINGTON

14 December, 1917

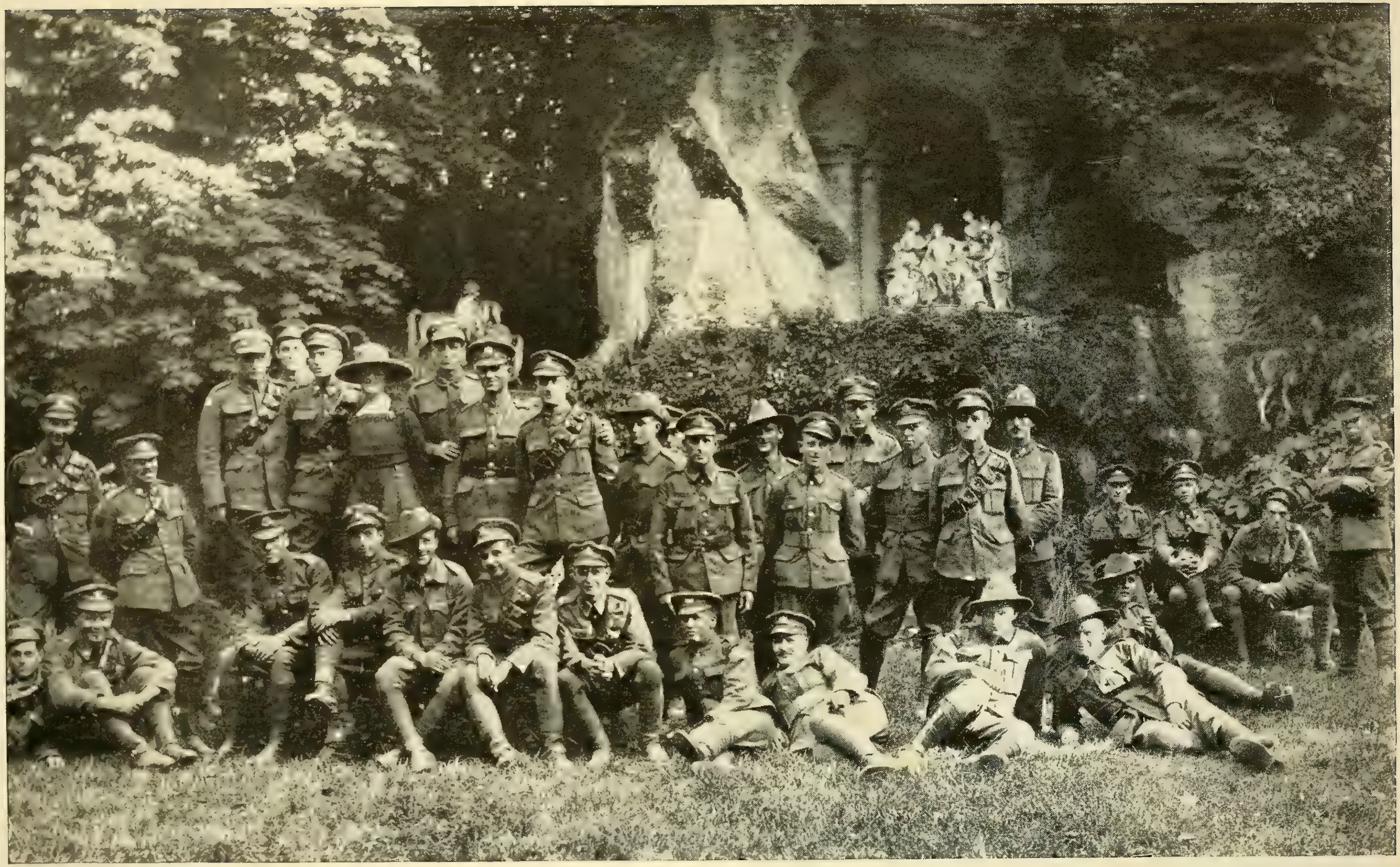
My dear Mr. Grosvenor:

The Flag Number of the National Geographic Magazine is indeed most interesting and most valuable. I sincerely congratulate you on the thoroughness and intelligence with which the work has been done. It constitutes a very valuable document indeed.

Cordially and sincerely yours,

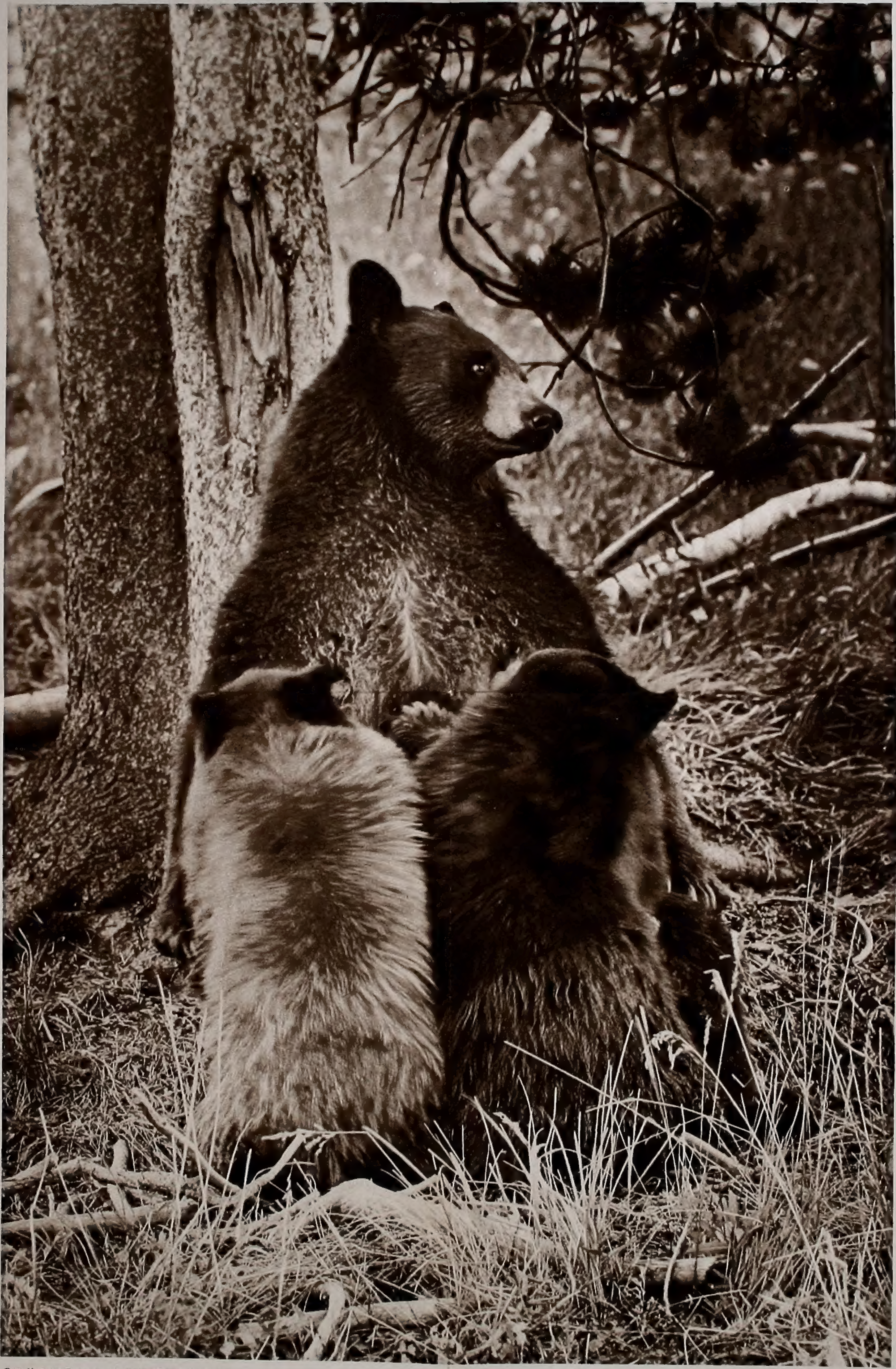
Woodrow Wilson

Mr. Gilbert H. Grosvenor, Director,
National Geographic Society.



THE SOLDIERS' FRIEND AND HER ESCORT IN THE GROTTO OF APOLLO AT VERSAILLES (SEE PAGE 543)

"We step from the brilliant sunshine of the open garden into a bit of exquisite old forest, delightfully cool and absolutely still. My weary wanderers fall upon the grass in attitudes of, I might almost say, abandon. The Grotto of Apollo? 'Oh yes, that's the place where Looey is getting washed by those women,' ventures a breezy farmer from New Zealand. And I pretend not to hear him nor the 'S-h-h-h-h!' from every side."



From National Geographic Magazine, Washington, D. C.
Gilbert H. Grosvenor, *Editor*. © 1917

"BABES IN THE WOOD"

The American Black Bear, of which the Brown Bear is a color phase, is not aggressive and will attack man only when wounded or in defense of its young. The hungry twins were born in mid-winter and came into the world entirely devoid of fur overcoats. Their coats soon developed, however; in a month their eyes were open, and in two months they were following their mother about the great forests of the Yellowstone.

Photograph by F. J. Haynes ©

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